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Cover: Northern Shrike (*Lanius borealis*) feeding upon a female Northern Cardinal (*Cardinalis cardinalis*). Chino Farms, Queen Anne's County, Maryland, 23 January 2010. Photographed by Mark Johnson.

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EDITOR'S NOTE

Latest AOS Checklist of North and Middle American Birds

This issue of *Maryland Birdlife* will utilize the American Ornithological Society (AOS; formerly AOU) Checklist of North and Middle American Birds through the Fifty-eighth Supplement (2017). The list order has changed extensively. Details of the changes can be found in:

> R. Terry Chesser, Kevin J. Burns, Carla Cicero, Jon L. Dunn, Andrew W. Kratter, Irby J. Lovette, Pamela C. Rasmussen, J. V. Remsen, Jr., James D. Rising, Douglas F. Stotz, and Kevin Winker. 2017. Fifty-eighth supplement to the American Ornithological Society's Check-list of North American Birds. *The Auk*: July 2017, Vol. 134, No. 3, pp. 751–773. Available at: http://americanornithologypubs.org/doi/pdf/10.1642/AUK-17-72.1.

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Maryland Birdlife 66(2):2–3

New Early Egg Date for Eastern Screech-Owl (*Megascops asio*) in Maryland

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On 22 February 2005, Scanlon discovered an Eastern Screech-Owl (*Megascops asio*) incubating a single egg. The nest was in a Wood Duck (*Aix sponsa*) box located on Morris Neck, Dorchester County, Maryland, which is approximately 15 km (9 mi) west of Cambridge. The box was situated on a post in a manmade slough, about 0.6 m (2 ft) above the water surface and approximately 5 m (16 ft) from the nearest dry shore. This box has been in place for 3 years. The single egg was a typical "ping pong ball," being white and spheroid.

The general habitat of this area is typical of the Eastern Shore of Maryland. The slough is a depression surrounded by mature willow oaks (*Quercus phellos* L.), loblolly pines (*Pinus taeda* L.), and white oaks (*Quercus alba* L.) and was created when the field was first cleared many, many years ago. The slough is about 10 m (33 ft) wide and 90 m (295 ft) long and fills with rainwater in the fall and goes dry most summers. A ridge with loblolly pines, oaks (*Quercus* L. spp.), American beech (*Fagus grandifolia* Ehrh.) and holly (*Ilex* L. spp.) runs along the east side of the slough. To the west is a cultivated field. Oaks and other dominant vegetation (greenbrier [*Smilax* L. spp.], holly, pines (*Pinus* L. spp.), and tupelos [*Nyssa* L. spp.]) about 8 m (26 ft) deep form a field boundary up to the edge of the slough. Conservation Reserve Program (CRP) plantings (various cold season grasses and clover [*Trifolium* L. spp.]) edge this field out 30 m (98 ft) to the cultivated area. This latter area had been planted in corn (*Zea mays* L.) for the previous 3 years. The elevation is only a few meters above sea level and less than 1 km (0.6 mi) from tidewater.

Determining egg dates for cavity-nesting birds, particularly nocturnal owls, is not readily accomplished. Iliff et al. (1996) and Jeschke (1996) give the earliest Maryland egg date for the Eastern Screech-Owl as 8 March without further documentation. This observation west of Cambridge moves that date two full weeks earlier. Jeschke (1996) cites Ringler (1990) where David Czaplak reported observing a pair of Eastern Screech-Owls with a fledgling on 19 March 1990 in the District of Columbia. Thus, still earlier egg dates for this owl than

the one reported here are quite likely for this area. The only follow up to see if this 2005 nest was successful was in the fall of 2005 when the box was briefly checked. It had evidence that it had been used by Wood Ducks, but no clear evidence that the Eastern Screech-Owls had fledged young. The ducks can start nests as late as mid-May, which could be just after a successful owl brood had fledged, if started as early as this clutch.

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Eastern Screech-Owl, Red Morph
by Ikumi Kayama

Digital watercolor, 2016. "This Eastern Screech-Owl was painted after owling with a group of MOS members. Although we did not see or hear any screech-owls that night, I was inspired to paint one. I used many photo references and read about common morphs found in the region. From the references, I rebuilt the bird to highlight their anatomical characteristics--ear tufts, yellow eyes, complex patterning on the body, etc. to create an ideal specimen."

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Sunbathing by an Eastern Wood-Pewee, *Contopus virens*

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On 30 July 2017 at approximately 2:15 p.m. EDT, Gene Scarpulla drew my attention to an Eastern Wood-Pewee (*Contopus virens*) near the bird bath on the wooden back deck of our home in Bowie, Prince George's County, Maryland. Our home is adjacent to woodlands bordering the stream valley of Collington Branch, a tributary of the Patuxent River, and we enjoy an extensive selection of birds on our yard list. Eastern Wood-Pewees are typically present throughout the breeding season. At that time of day, though bordered by woods, our deck, facing southeast, is in full sun.

The pewee did not enter the water to bathe, but instead was using the bird bath, the deck railing, and the deck furniture as perches from which to hawk insects. We watched it move from one point to another over several minutes, and during that time I moved to another viewing point to pick up my binoculars.

From my new position approximately 7.6 m (25 ft) from the pewee, I observed it fly down to the surface of the wooden deck and immediately assumed a prostrate position with its breast and belly fully on the deck surface and its wings outspread and tail fanned. I observed the bird through 10x42 Bausch & Lomb binoculars, and could clearly see that the feathers over its whole body were somewhat ruffled; this was particularly apparent on the head and neck. The wings were spread to such a wide extent that the white edges of the tertials and secondaries were easily seen, as were the bars on the wing coverts. Because the wing bars were dull buff-colored instead of white, I judged the bird to be a juvenile (Pyle et al. 1987). The bird was facing away from me and I could not see if its mouth was agape, as would be expected for an overheated bird in the sunny, warm conditions present on the deck at the time.

I remarked to Scarpulla that the bird was apparently sunbathing on the surface of the deck, similarly as reported for Great Crested Flycatchers (*Myiarchus crinitus*) on the vinyl cover of an outdoor spa in Annapolis, Anne Arundel County, Maryland (Johnson 2017). However, from his vantage point, Scarpulla could not see the bird. I continued to observe the bird through my binoculars.

The bird remained prostrate for approximately 30 to 40 seconds, and then flew up to the deck railing, raised its feathers and shook to settle them, and flew off into the woods. A check of weather conditions showed full sun with an ambient temperature of 25° C (77° F), 43% humidity, and a dew point of 12° C (54° F). The UV index was 8 on a scale of 1 through 10 (AccuWeather 2017).

Although we watched for the bird on subsequent days, we did not observe it returning to the deck for additional sunbathing episodes.

DISCUSSION

Typical sunbathing behavior involves a bird landing on a more-or-less horizontal substrate and pressing its ventral surface against the substrate. The bird splays its wings and tail against the substrate, then it either slides along the substrate, remains stationary, or alternates between sliding and remaining stationary (Johnson 2017). Johnson (2017) refers to the sliding motion as "scooting." The head of the bird may be cocked upward and the mouth agape.

Sunbathing can be divided into two categories: "voluntary" and "compulsory" (Hauser 1957). In voluntary sunbathing, the bird deliberately seeks the sunlit area; in compulsory sunbathing, the bird is forced into the sunlit area (e.g., on a shiny metal platform feeder [Hauser 1957] or when shielding nestlings [Goodwin 1967]). Kennedy (1969) discussed six possible functions of sunbathing: 1) sunrise thermoregulation, 2) ectoparasite control, 3) plumage drying, 4) vitamin D production, 5) a molting role, and 6) production of the uropygial gland secretion. Horsfall (1984) also discussed these possible functions. Lanyon (1958) observed that sunbathing was initiated by heat and not light. A blog post by Darren Naish (2013) at Scientific American provides an overview of sunbathing behavior in birds, complete with example photos of various birds and a brief discussion of possible purposes of sunbathing.

We surmise that like the Johnson (2017) Great Crested Flycatchers, this Eastern Wood-Pewee was engaging in sunbathing behavior for the likely purpose of controlling ectoparasites. The ambient temperature was much too warm to account for thermoregulatory warming behavior.

SUMMARY OF SUNBATHING IN NORTH AMERICAN AND CENTRAL AMERICAN PEWEES

The American Ornithological Society (AOS 2017) lists four species of *Contopus* in North America: Olive-sided Flycatcher (*C. cooperi*), Greater Pewee (*C. pertinax*), Western Wood-Pewee (*C. sordidulus*), and Eastern Wood-Pewee; and seven species in Central America: Dark Pewee (*C. lugubris*), Ochraceous Pewee (*C. ochraceus*), Tropical Pewee (*C. cinereus*), Cuban Pewee (*C. caribaeus*),

Jamaican Pewee (*C. pallidus*), Hispaniolan Pewee (*C. hispaniolensis*), Lesser Antillean Pewee (*C. latirostris*). However, little is documented about sunbathing (which is considered a self-maintenance type of behavior) in these birds.

Eastern Wood-Pewee

McCarty (1996) in Birds of North America reported no published descriptions of self-maintenance in the Eastern Wood-Pewee. Hauser (1957) observed the Eastern Wood-Peewee in voluntary sunbathing position, but provided no details. My observation is the first known published case that provides even minimal details for this species. While sunbathing has been reported for Western Wood-Pewees (see below), my observation is the first known published case that provides any details for the genus *Contopus*.

Western Wood-Pewee

On the Birds of North America (Bemis and Rising 1999), Bemis states that sunbathing is rarely observed in the Western Wood-Pewee. BirdNote (2014) shows a photo of a Western Wood-Pewee sunbathing, with no details provided. The photographed bird appears to be AHY (after hatching year) based on the "narrow, indistinct, pale grayish" wing bars (Pyle et al. 1987). Additional online database searches yielded no additional observations.

Olive-sided Flycatcher

Searches on the Birds of North America (Altman and Sallabanks 2012) found no sunbathing information for Olive-sided Flycatcher. Additional online database searches yielded no additional information.

Greater Pewee

Searches on the Birds of North America (Chace and Tweit 1999) found no self-maintenance information for Greater Pewee. Additional online database searches yielded no additional information.

Central American Pewees

Online database searches found no information on sunbathing by the seven Central American species. It is quite possible that information on these species could be published in small, obscure, and/or foreign journals that might not be easily accessible online.

SUMMARY

Although sunbathing by birds might not be a rare occurrence, this behavior has only been documented for a limited number of species. I encourage others to write up their observations of this phenomenon to further increase our knowledge of this fascinating avian behavior.

ACKNOWLEDGMENTS

I thank Eugene J. Scarpulla (Editor, *Maryland Birdlife*) for his assistance in locating several publications. I also thank two anonymous reviewers for their helpful comments.

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Maryland Birdlife 66(2):9–19

Winter Site Fidelity and Over-wintering Site Persistence of a Northern Shrike, *Lanius borealis*, in Maryland

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Abstract: Observations were made of a single adult Northern Shrike (*Lanius borealis*) over a four-year period during the winters of 2007–2008 to 2011–2012 on the Eastern Shore of Maryland. A new record early arrival date of 13 October and a record late last occurrence date of 16 April were established for the state. Average annual residence time was 155 days ±13.9 SE. Average home range size was 71.7 ha ±23.1 SE (177.1 ac ±57.1 SE) using the minimum convex polygon method and 69.1 ha ±17.7 SE (170.5 ac ±43.7 SE) using the kernel density estimate for 95% percent volume contours. Average core home range or 50% percent volume contours was 13.7 ha ±5.49 SE (33.9 ac ±13.6 SE). Each winter's home range was comprised of multiple habitat types, but native grasslands and early successional shrub-scrub habitat annually dominated the core home range.

Northern Shrikes (*Lanius borealis*) are Nearctic breeders that migrate to southern Canada and northern United States annually, but distance and timing vary greatly between individuals and across years (Paruk et al. 2017). Numbers of migrating Northern Shrikes fluctuate annually throughout the winter range (Atkinson 1995, Rimmer and Darmstadt 1996), and the species is not recorded annually in Maryland. When present in the State, only one or two individuals are typically found, four individuals have been banded, but were either captured while migrating, or if wintering, did not remain in the area after release, so actual residency of individuals has been unknown. Apparent lengths of time birds were observed are highly variable, but I found no published documentation of Northern Shrike winter site fidelity or site persistence in Maryland. Here, I present the first observations of one site-faithful individual Northern Shrike (Figure 1) made during four consecutive winters (2007–2008 to 2010–2011) in Maryland, and I describe its habitat use and winter home range persistence.

Figure 1. Northern Shrike (*Lanius borealis*). Chino Farms, Queen Anne's County, Maryland; 18 December 2009.

METHODS

Area Description

All observations took place on Chino Farms (39.231022°, -76.005853°) in northern Queen Anne's County, Maryland. Chino Farms is one of the largest commercial farms in Maryland and is typical of most farms in the area in its planting a crop rotation of corn (*Zea mays* L.), soybeans (*Glycine max* [L.] Merr.), and cereal grains (Poaceae spp.). The overall landscape is typical of the upper Eastern Shore of Maryland with the area dominated by row crop agricultural land, deciduous woodlots of varying size, and close proximity to creeks and rivers. A major exception is the 91.7 ha (226.6 ac) Chester River Field Research Station (CRFRS) grassland planted with native warm season grasses with scattered islands of woody habitat. The grasslands were enrolled in the United States Department of Agriculture (USDA) Conservation Reserve Program (CRP) in 1999 and planted in an experimental design. For more information on the experimental design, species planted, and initial research, see

Gill et al. (2006). Currently the grasslands are dominated by two species of tall grass, big bluestem (*Andropogon gerardii* Vitman) and switchgrass (*Panicum virgatum* L.) with numerous 1.5 m–4.6 m (5–15 ft) saplings of multiple species and large areas dominated by winged sumac (*Rhus copallinum* L.).

Data Collection

Location data were gathered both opportunistically and systematically throughout the winter from February through April for years 2009–2012. Location data were not gathered in the 2007–2008 winter period, when the bird first appeared on site but remained unbanded. The majority of observations used to define this individual's home range were obtained by the author, other observers reporting the shrike were contacted and locations of their observations were included when possible. Efforts were made to locate the bird bi-weekly, though locations were recorded more frequently when time allowed, and searches were increased during late March to determine accurate departure dates. Shrike locations were delineated on field maps and Global Positioning System (GPS, Garmin XP) points were taken at a later date when the bird was not occupying the immediate area. GPS data were transferred to ArcMAP 10.3 (Esri 2014) and digitized.

Home range estimates for each year were established using minimum convex polygon (MCP) criteria (Anderson 1982), and kernel density estimates (KDE) were developed for each year's home range and refined using an ad hoc approach (Kie 2013). A MCP is the smallest polygon that can be drawn that will enclose the area an individual has been recorded using and a KDE analysis allows researchers to see how an individual uses different areas within the home range based on the density of location data recorded (MacLeod 2013). After KDEs were created for each year, 50% and 95% percent volume contours (PVC) were added following MacLeod (2013). PVCs are enclosed areas defined by a specific density threshold that contain a proportion of the location data, for example a 50% PVC will contain 50% of the location data for an individual (MacLeod 2013). After the MCP and PVC home ranges were delineated, area calculations were obtained and landscape attributes within each year's home range were mapped. Five landscape attributes, agricultural land (including field margins), cool season grass areas or lanes, early successional shrub/scrub habitat, tree and hedge rows, and warm season grass fields were selected due to their importance for Northern Shrikes winter home ranges previously mentioned in the literature (Atkinson 1993, Paruk et al. 2017) and personal observations.

RESULTS

The Northern Shrike was first observed on the afternoon of 3 November 2007 perched on a tree along Kibler Road. It was identified as an adult (i.e., at least one year of age), due to the lack of any brown juvenal plumage. In addition,

feather plumage consistent with an adult shrike included: white throat; white breast with thin crisp gray feather edging; solid light gray back, nape, and top of head; solid jet black mask; and small pink area on the lower mandible (Pyle 1997). One distinguishing feature of this individual, which allowed us to be certain we were observing the same individual throughout the winter, was the overall size of the black mask. The length and width of the black mask were extensive and uniquely identified this individual (Figure 1). Photographs confirmed the same bird was observed many times throughout the winter of 2007–2008, although no GPS location data were obtained.

An adult shrike was seen on 6 November 2008 in the same general area of the 2007–2008 sightings. All plumage features were consistent with those of the 2007 shrike, including the extensive black mask which convinced us that the 2007 shrike had returned. I began collecting location data for the shrike in February 2009 (Table 1) and continued detailed observations each successive winter it was present. Hereafter I refer to this bird as the "Chino" shrike.

Table 1. Winter territory size and minimum residency time for the Chino Northern Shrike, Queen Anne's County, Maryland.

Year	Number of Relocations (GPS) points	100% MCP[1] (ha)	95% PVC[2] (ha)	50% PVC (ha)	Minimum Residence Time (days)	First Observation	Last Observation
2008–2009	63	139.36	117.28	29.06	162	6 November	16 April
2009–2010	65	43.24	52.73	11.40	171	13 October	1 April
2010–2011	77	63.23	71.11	11.47	173	20 October	10 April
2011–2012	42	40.79	35.08	2.95	114	21 October	11 February

[1]minimum convex polygons
[2]percent volume contours

On 18 December 2009, I captured the "Chino" shrike using a Bal-Chatri trap modified with the addition of a Potter trap placed on top and baited with a Deer Mouse (*Peromyscus maniculatus* [Wagner]). I banded the bird with a United States Geological Survey (USGS) metal band (1292-53802) and released it unharmed. The shrike was aged after-second-year (Pyle 1997) with a wing chord of 108 mm (~4.3 in). Plumage characteristics were consistent with those described by Brady et al. (2009) for adult male Northern Shrikes, although I was not able to definitively determine the bird's sex. The "Chino" shrike was never heard singing, although Northern Shrikes have been recorded singing during the winter period (Atkinson 1993). After banding, the "Chino" shrike remained in the area throughout the rest of the 2009–2010 winter period and the subsequent two winters, we continued to confidently identify this bird with each encounter

as the same individual due to the identical plumage features and the band on the left leg.

Minimum home range sizes varied across years and ranged from 43.24 to 139.36 ha ($\bar{x}$ = 71.66 ha ±23.12 SE) [106.85 to 344.37 ac ($\bar{x}$ = 177.07 ac ±57.1 SE)] for the MCP estimates (Table 1). Ninety-five and 50% percent PVCs constructed after running a Kernel Density Analysis varied across years. Ninety-five percent PVCs ranged from 35.08 to 117.28 ha ($\bar{x}$ = 69.05 ha ±17.68 SE) [86.68 to 289.81 ac ($\bar{x}$ = 170.5 ac ±43.7 SE)], while the 50% PVC or the area most heavily used, considered the core home range, ranged from 2.95 to 29.06 ha ($\bar{x}$ = 13.72 ha ±5.49 SE [7.28 to 71.81 ac ($\bar{x}$ = 33.90 ac ±13.6 SE)] (Table 1). The location of the "Chino" shrike's core range was remarkably consistent across years with considerable overlap, the average centroid (center of territory) distance ranged from 73.56 to 335.73 m ($\bar{x}$ = 167.26 m ±84.41 SE) [241.35 to 1101.46 ft ($\bar{x}$ = 548.75 ft ±276.94 SE)] away from the 2008–2009 winter when location data were first taken. Across years, 93.1% (range 85.8%–98.8%) of the area within each core range was made up of the native warm season grassland and early successional habitat (Table 2). Minimum residence time or home range occupancy varied little between the first three winters during which location data were collected, ranging from 114 to 172 days ($\bar{x}$ = 155 days ±13.87), but was noticeably shorter in its final winter.

Table 2. Descriptive statistics for percent and total hectares of five landscape attributes of each home range held by the Chino Northern Shrike, Queen Anne's County, Maryland.

		Habitat Type									
		Agricultural Land		Cool Season Grass		Early Successional		Tree Row		Warm Season Grass	
Year	Home Range Types	#[1]	%[2]	#	%	#	%	#	%	#	%
2008-2009	50% PVC[3]	0.5	1.71	0.32	1.09	4.06	13.98	-	-	23.64	81.36
	95% PVC	28.46	24.27	2.16	18.5	11.21	9.55	2.03	1.73	59.74	50.94
	MCP[4]	60.42	43.35	1.95	1.4	9.89	7.1	3.19	2.29	55.24	36.64
2009-2010	50% PVC	0.7	6.16	-	-	3.33	29.22	0.09	0.78	6.42	56.3
	95% PVC	11.16	21.17	0.74	1.4	7.01	13.29	1.33	2.52	29.41	55.79
	MCP	13.82	31.97	0.6	1.39	29.41	55.79	0.81	1.87	19.84	45.89
2010-2011	50% PVC	0.42	3.66	-	-	3.79	33.07	-	-	6.84	59.63
	95% PVC	7.95	11.19	1.23	1.72	7.2	10.13	1.37	71.14	50.59	71.14
	MCP	4.82	7.62	0.59	0.93	6.2	9.8	0.18	0.29	50.14	79.3
2011-2012	50% PVC	-	-	-	-	1.89	64.03	-	-	1.03	34.81
	95% PVC	5.83	16.63	0.29	0.83	5.8	16.54	0.06	0.17	22.21	63.31
	MCP	18.6	45.61	0.08	0.2	5.7	13.96	0.4	0.97	15.08	36.96

[1]number of hectares used within territory
[2]percent of hectares within territory
[3]percent volume contours
[4]minimum convex polygons

DISCUSSION

This is the first Northern Shrike documented to have shown winter site fidelity in Maryland. The bird returned for five consecutive winters and is one of only a handful of other documented cases of winter site fidelity for Northern Shrikes in North America (Rimmer and Darmstadt 1996, eBird 2013, Ryan Brady, in litt.). There are only five locations in Maryland that have multiple records of Northern Shrikes: Assateague Island National Seashore in Worcester County, Finzel Swamp and Russell Road in Garrett County, Chesapeake Bay Environmental Center in Queen Anne's County, and Chino Farms (eBird 2017). Only Finzel Swamp has records for consecutive years—2012, 2013, 2014—though there is no way to know if these represent the same individual (Bob Ringler, in litt.). In addition to being the first documented Northern Shrike to show site fidelity in Maryland, the "Chino" shrike also set record early and late observation dates for the state. The earliest previous detection for the species occurred on 26 October (Iliff et al. 1996), while the latest previously known date of occurrence was 9 April (eBird 2017).

Including the 2009 Chino bird, five Northern Shrikes have been banded in Maryland (Danny Bystrak, in litt.): one in 1970 in Caroline County, one in 1988 at Patuxent Research Refuge in Anne Arundel County, and the remaining three on Chino Farms in 2000, 2007, and 2009 (the bird reported here). With the exception of the 2009 "Chino" shrike (Table 1), none of these individuals were subsequently encountered, and no Northern Shrikes banded elsewhere have been encountered in Maryland (Danny Bystrak, in litt.).

North American Northern Shrikes, recently split from the Great Grey Shrike (*L. excubitor*) by the American Ornithological Society (Chesser et al. 2017), occupy considerably larger estimated home ranges than Great Grey Shrikes that have home ranges similar to the "Chino" shrike. Winter home range estimates of Great Grey Shrikes varied in size regionally, averaging 72 and 150 ha (178 and 371 ac) in two southern Swedish studies (Olsson 1984) and ranging between 20–100 ha (49–247 ac) in Germany (Cramp et al. 1993) compared with 72 ha (178 ac) average for the "Chino" shrike. Winter home range data from North America are sparse: nine Northern Shrikes in Idaho occupied an average estimated home range estimate of 215.7 ha (533.0 ac) (100% MCP method, Atkinson 1993), while 11 birds in Wisconsin had highly variable home ranges that averaged 554.7 ha (1370.7 ac) in 2009 and 53.0 ha (131.0 ac) in 2010 (Paruk et al. 2017). Habitat type and prey densities most likely drive home range sizes; productive habitats with high prey densities would allow shrikes to occupy smaller home ranges than less productive habitats like shrub-steppe areas of western North America (Atkinson 1993, Paruk et al. 2017). Average core home range or 50% PVC estimates for the "Chino" shrike over four winters was 13.3 ha (32.9 ac), considerably smaller than the 53.4 ha (132.0 ac) estimated for Northern Shrikes

in Idaho (Atkinson 1993). The "Chino" shrike was occasionally seen outside of its mapped MCP home range in several years, as far away as 2.7 km (1.7 mi) from the center of the home range. Due to the infrequency of sightings from this area I did not incorporate these locations into home range estimates, as I suspect this distant location most likely was an area occasionally used and only for short periods of time. This area was along a frequently travelled county road with limited perch locations and the "Chino" shrike would have been observed if it had utilized this area more frequently or the areas between here and the CRFRS grasslands (pers. obs.). Due to prey abundance and fluctuations in winter weather, Northern Shrikes can change their territories over the course of the winter (Paruk et al. 2017); in this case, it appears that the "Chino" shrike visited this location infrequently and it was not part of its core range or a permanent territory change.

The 155-day average minimum residence time of the "Chino" shrike was considerably longer than the mean minimum residence time of 77 days for nine Northern Shrikes wintering in Idaho (Atkinson 1993), but consistent with, albeit shorter than, the 169 days of Great Grey Shrikes in Sweden (Olsson 1984). This variation could be due to regional differences in winter severity and duration between wintering areas, or inter-annual differences in prey abundance or differences in migration timing between male and females. Differences between sexes or the possibility that birds were en route to other winter locations could have accounted for the variation in minimum residence time for Northern Shrikes wintering in Idaho, which stayed between 11 days and 120 days (Atkinson 1993), though more study is needed to confirm this and determine other possible reasons for this variation. The "Chino" shrike's inter-annual residence time showed little variation in the first three winters, but was remarkably shorter in the final year it was present. The winter of 2011–2012 had the highest average temperature and the least amount of snow accumulation (Weather Underground 2017) so weather may not have played a role in the shorter residence time. Two possible explanations for the shorter residence time are lower than normal prey availability (though we did not measure prey abundance) or the "Chino" shrike was killed by a predator.

Within each year's home range, amounts of discrete habitat type varied across the years (Table 2), but several habitat types were consistent within each home range and thus were likely important for this individual and were consistent with observations of winter home ranges for Northern Shrikes in other geographic areas (Atkinson 1993). The five habitat types were consistent in one way; they all had copious perches from which to hunt (pers. obs.). Northern Shrikes are "sit and wait predators", typically sitting atop a prominent perch, scanning the immediate environment, and flying down to the ground to catch insects or rodents, or to pursue birds (Atkinson 1993, Paruk et al. 2017). Habitat edges and ecotones are important to Northern Shrikes (Atkinson 1993). For example,

agricultural land comprised a large portion of the "Chino" shrike's winter home range in 2008–2009 at 43.35% (Table 2), however the bird was not found in the middle of the agricultural fields, but invariably occupied edges where there are perch locations (Figure 2), in the same manner that American Kestrels, *Falco sparverius*, use road edges surrounding agricultural land with perches such as utility wires or trees (Smallwood and Bird 2002). A large portion of the core range, and apparently highly important to this individual, consisted of native warm season grasses and early successional shrub-scrub (four-year average 58% and 35%, respectively). Both habitats potentially harbor high prey densities of small rodents and passerine birds, as well as providing protective herbaceous cover (Atkinson 1993). These habitats were not uniform in nature, varying in structure and vegetative composition, and provided many hunting opportunities, especially along the short grass lanes throughout the CRFRS grassland (pers. obs.).

High quality habitat is important to birds throughout the year, but is particularly critical during the non-breeding season (Marra et al. 1998). Early successional habitat is limited on the Delmarva Peninsula and is one of the main causes for dramatic declines in grassland species that depend on it, including the Loggerhead Shrike (*Lanius ludovicianus*). Northern Shrikes require similar habitat types as Loggerhead Shrikes (Bent 1950, Atkinson and Cade 1993, Atkinson 1995), albeit in the winter, and thus much of the Delmarva Peninsula is no longer suitable for these species. Among migratory species, carryover effects from occupying a poor winter territory or home range can negatively affect subsequent breeding performance (Marra et al. 1998). If site fidelity is a measure of assessing winter habitat quality, then we surmise that this small area of Maryland with grassland and early successional shrub-scrub provided high quality habitat for this Northern Shrike.

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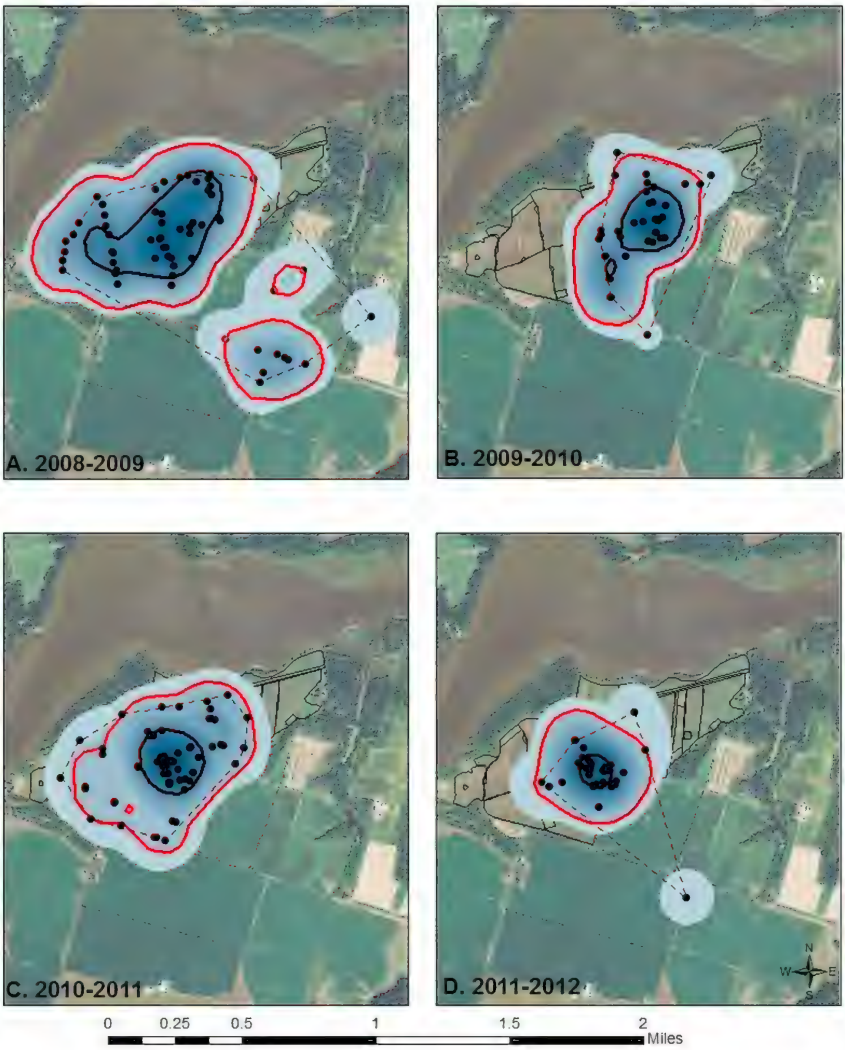

Figure 2. Home ranges for a single Northern Shrike throughout four winters on Chino Farms, Queen Anne's County, Maryland. The maps depict GPS locations (black dots), minimum convex polygons (dashed black line), 50% percent volume contours (thick solid black line), 95% percent volume contours (solid red line), kernel density estimate analysis (blue shading), and the Chester River Field Research Station grasslands (thin solid black line).

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Brown Creeper (*Certhia americana*) Fatality Exhibits Signs Associated with Lead Poisoning

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Abstract: Post-mortem clinical necropsy of a Brown Creeper (*Certhia americana*) found an object consistent with being an eroded lead shot in the gizzard and several physiological signs commonly associated with lead poisoning. This may be the first documented incidence of possible lead poisoning in the family Certhiidae of wild passerines and one with an internal tangible lead source.

Keywords: Brown Creeper, *Certhia americana*, lead poisoning

Lead (Pb) poisoning of numerous species of waterfowl from fortuitous ingestion of spent lead shot while bottom-feeding in various aquatic habitats has been well documented since the early 20th Century (Bowles 1908) and recognized as a serious problem facing the welfare of many waterfowl species populations (McAtee 1908, Jordon and Bellrose 1950, Sanderson and Bellrose 1986). Poisoning from accidently ingested lead shot has also been reported in several species of ground-feeding upland game birds (i.e., pheasant, quail, doves) (Campbell 1950, Hunter and Rosen 1965, Westemeier 1966, Locke and Bagley 1967, Lewis and Legler 1968). Lead shot in ammunition used for hunting waterfowl and rails was phased out in the United States starting in 1986, but lead is still permitted in ammunition used for hunting upland game (Rattner et al. 2008). Predators and scavengers have been shown to suffer secondary lead poisoning from spent shot embedded or ingested in their prey (Benson et al. 1974, Janssen et al. 1986, Pain et al. 1993, Clark and Scheuhammer 2003, Fisher et al. 2006). There are far fewer documentations of lead poisoning of wild birds in other major bird groups while identifying the source of the poisoning and the method of contact. Regardless, numerous forms of solid, dissolved, or atomized lead in the environment may have potential to jeopardize the welfare of many bird species and/or populations into the future.

I present in this paper results of a Brown Creeper (*Certhia americana*) clinical necropsy exhibiting signs commonly associated with lead toxicosis in birds, and possibly constituting a previously undocumented internal source of lead poisoning of a wild passerine in the family Certhiidae.

THE SPECIMEN

The recently dead Brown Creeper was found beneath a tree near a bird feeder outside a residential home near the village of Bozman, Talbot County, Maryland on 8 December 1980. Upon collection, the specimen was sealed in a plastic Ziploc® bag with a date and location label and placed in the freezer. I removed the specimen from the freezer on a late January 1981 date, performed a clinical necropsy and prepared the specimen as a scientific study skin (JR Preparation Catalog Number 949; Smithsonian Institution, National Museum of Natural History, Division of Birds Catalog Number USNM 599312).

RESULTS

Necropsy of the creeper found the specimen totally lacking of subcutaneous fat, and seriously emaciated with notably shrunken pectoral muscles besides the exposed ventral portion of the sternum keel. The esophagus was empty and did not appear abnormal. The cardiac cavity was watery and lacked coronary fat while the heart did not appear abnormal. The posterior end of the proventriculus and lining of the gizzard were stained green while the lining of the gizzard appeared thickened and brittle. The gizzard was empty of food items, but contained several granules of grit and what appeared to be an eroded lead shot approximately 1 mm (0.04 in) in diameter. The pancreas and gall bladder were discolored green-black and swollen with similarly colored bile contents. Some green staining was obvious on the shiny surface of the liver lobes adjoining these organs. It is uncertain if the intestine was swollen and no food items could be identified, but it did contain green liquid, giving a greenish cast to the exterior walls. The cloaca was stained green while the exterior vent area was stained with greenish diarrhea. The skull was 100% pneumatized indicating the creeper may have been more than one-year old, while an internal gonad inspection found the non-enlarged testes of a male.

The creeper had no fractures of the bill, blood on the plumage, skin punctures, hemorrhaged areas beneath the epidermis, broken bones, detectable parasites, fungus, or any other signs of death from trauma such as collision with a window, talon punctures from a predator strike, or serious disease infection or parasite infestation.

Under a stereoscope the shot appeared a typical gray color of lead, was easily malleable when pinched with a pair of needle-nosed pliers, and not attracted to a magnet. Chemical analysis of body tissues and/or organs was beyond the access of this biologist, thus beyond scope of this clinical necropsy.

DISCUSSION

The clinical necropsy of a Brown Creeper found dead on a residential lawn revealed signs commonly associated with lead poisoning that may have caused and/or contributed to its death.

Studies have found elevated levels of lead in blood, feathers, and/or body tissues of wild passerine species commonly living and/or nesting in habitat within, or in close proximity to, known sources of lead as opposed to their counterparts in nearby less contaminated habitats (Table 1). Field studies in contaminated areas and/or laboratory studies with dosed passerines found some species pass lead shot avoiding adverse toxic effects (Custer et al. 2003, Hofer et al. 2010) and others suffer little or no effects of lead toxicity (Getz et al. 1977, Undevitz et al. 1980). Other studies found lead toxicity may affect ages, sexes, or species differently (White and Stendell 1977, Blus et al. 1995, Vyas et al. 2000, Vyas et al. 2001, Beyer et al. 2013). Studies have also found eroded shot may be more toxic than non-eroded shot to some species (Vyas et al. 2001). Results of these studies suggest there is still a lot to be learned about the toxic susceptibility of a multitude of passerine species (including susceptibility based on the age and sex of a victim) to solid versus atomized or dissolved forms, exposure duration, non-eroded versus eroded shot, and various tissue concentrations necessary to cause mortality.

Alimentary tract discoloring and compromised endocrine glands may possibly be signs associated with emaciation or other ailments. However, severe emaciation, swollen endocrine glands, and green staining throughout the Brown Creeper's alimentary system are signs more commonly associated with acute toxicosis consistent with oral lead exposure (see examples in Locke and Bagley 1967, Locke and Young 1973, Baldassarre and Bolen 1994, Friend 1999). Furthermore, the shot found in the creeper's gizzard provides evidence as a source of lead poisoning despite the lack of confirmatory laboratory tissue analysis.

Documented incidences of an ingested tangible source of lead for potential lead poisoning in wild passerines are lacking. Thus, the lead shot in the Brown Creeper's gizzard is an important occurrence. Possibly the creeper ingested the shot while collecting grit from the ground, while a more plausible explanation may be dislodging the shot while gleaning tree bark. If the latter is true, possibly other bark-gleaners such as woodpeckers, nuthatches, and some warbler species may also be at risk.

Dislodging lead shot or fragments while bark gleaning is believed responsible for elevated levels of lead found in the liver or kidney of wild Red-headed Woodpecker (*Melanerpes erythrocephalus*), Red-bellied Woodpecker

Table 1. Passerine families with taxa found to have elevated levels of lead in blood, feathers, and/or tissues when found living in habitats containing a source of lead contamination.

Family and Species	Lead levels above reference habitat	Source of lead in habitat	Citation
Tyrannidae			
Eastern Phoebe *Sayornis phoebe*	Exceeding level of no adverse effect	Small arms firing range	Johnson et al. 2007
Vireonidae			
Blue-headed Vireo *Vireo solitarius*	Diagnosed with lead poisoning	Firearms training facility	Lewis et al. 2001
Corvidae			
Blue Jay *Cyanocitta cristata*	Elevated in contaminated habitat	Firearms training facility	Lewis et al. 2001
Blue Jay	Greater than reference areas	Lead mining and smelting complex	Beyer et al. 2013
Common Raven *Corvus corax*	During hunting season	Field offal of shot big game	Craighead and Bedrosian 2008
Hirundinidae			
Tree Swallow *Tachycineta bicolor*	Significantly higher than rural area swallows	Lead mining and smelting complex	Blus et al. 1995, Custer et al. 2003
Bank Swallow *Riparia riparia*	Elevated in contaminated habitat	Lead mining and smelting complex	Niethammer et al. 1985
Barn Swallow *Hirundo rustica*	Greater than rural area swallows	Highway vehicle emissions	Grue et al. 1984
Certhiidae			
Brown Creeper *Certhia americana*	Unknown	Ingested lead shot	This study
Troglodytidae			
House Wren *Troglodytes aedon*	Significantly higher in contaminated habitat	Urban brownfield site	Hofer et al. 2010
Carolina Wren *Thryothorus ludovicianus*	Elevated in contaminated habitat	Firearms training facility	Lewis et al. 2001
Carolina Wren	Greater than reference areas	Lead mining and smelting complex	Beyer et al. 2013
Turdidae			
Swainson's Thrush *Catharus ustulatus*	Elevated above reference area	Lead mining and smelting complex	Hansen et al. 2011
Wood Thrush *Hylocichla mustelina*	Exceeding level of no adverse effect	Small arms firing range	Johnson et al. 2007
Wood Thrush	Greater than reference areas	Lead mining and smelting complex	Beyer et al. 2013
Eurasian Blackbird *Turdus merula*	Significantly higher than rural area	Moderately polluted urban area	Scheifler et al. 2006
American Robin *Turdus migratorius*	Significantly higher than reference area	Lead contaminated floodplain	Johnson et al. 1999
American Robin	Greater than reference areas	Lead mining and smelting complex	Beyer et al. 2005, 2013
American Robin	Significantly higher than rural area	Urban developed area	Roux and Marra 2007
American Robin	Significantly lower than House Wren in area	Urban brownfield site	Hofer et al. 2010
American Robin	Elevated above reference area	Lead mining and smelting complex	Hansen et al. 2011

Family and Species	Lead levels above reference habitat	Source of lead in habitat	Citation
Mimidae			
Gray Catbird *Dumetella carolinensis*	Significantly higher than rural area	Urban developed area	Roux and Marra 2007
Brown Thrasher *Toxostoma rufum*	Elevated in contaminated habitat	Firearms training facility	Lewis et al. 2001
Northern Mockingbird *Mimus polyglottos*	Significantly higher than rural area	Urban developed area	Roux and Marra 2007
Sturnidae			
European Starling *Sturnus vulgaris*	Significantly higher than rural area	Urban developed area	White et al. 1977
European Starling	Significantly higher than rural area	Highway vehicle emissions	Grue et al. 1986
Passeridae			
House Sparrow *Passer domesticus*	Significantly higher than agricultural area	Urban developed area	Chandler et al. 2004
House Sparrow	Significantly higher than rural area	Urban developed area	Roux and Marra 2007
Passerellidae			
Eastern Towhee *Pipilo erythrophthalmus*	Greater than reference areas	Lead mining and smelting complex	Beyer et al. 2013
Song Sparrow *Melospiza melodia*	Significantly higher than reference area	Lead contaminated floodplain	Johnson et al. 1999
Song Sparrow	Significantly higher than rural area	Urban developed area	Roux and Marra 2007
Song Sparrow	Elevated above reference area	Lead mining and smelting complex	Hansen et al. 2011
White-throated Sparrow *Zonotrichia albicollis*	Significantly higher in contaminated area	Trap and skeet range	Vyas et al. 2000
Dark-eyed Junco *Junco hyemalis*	Significantly higher in contaminated area	Trap and skeet range	Vyas et al. 2000
Icteridae			
Brown-headed Cowbird *Molothrus ater*	Significantly higher in contaminated area	Trap and skeet range	Vyas et al. 2000
Common Grackle *Quiscalus quiscula*	Elevated in contaminated habitat	Firearms training facility	Lewis et al. 2001
Parulidae			
Palm Warbler *Setophaga palmarum*	Elevated in contaminated habitat	Firearms training facility	Lewis et al. 2001
Yellow-rumped Warbler *Setophaga coronata*	Diagnosed with lead poisoning	Firearms training facility	Lewis et al. 2001
Cardinalidae			
Northern Cardinal *Cardinalis cardinalis*	Elevated in contaminated habitat	Firearms training facility	Lewis et al. 2001
Northern Cardinal	Elevated above reference area cardinals	Lead mining and smelting complex	Beyer et al. 2005, 2013
Northern Cardinal	Exceeding level of no adverse effect	Small arms firing range	Johnson et al. 2007
Northern Cardinal	Significantly higher than rural area	Urban developed area	Roux and Marra 2007

(*Melanerpes carolinus*), and Pileated Woodpecker (*Dryocopus pileatus*) in Georgia, and in the liver of Gray-headed Woodpecker (*Picus canus*) and White-backed Woodpecker (*Dendrocopos leucotos*) in Sweden, although the gizzards contained no tangible source of lead (Mörner and Petersson 1999, Lewis et al. 2001).

Thus, this Brown Creeper may be the first documented incidence of possible lead poisoning in the passerine family Certhiidae, while further contributing to the identification of species impacted by lead's toxic effects, the source of the lead, and an understanding of the far reaching effects of lead products in the environment.

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First Known Case of a Passerine Presumably Returning a Dead Chick to the Nest

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Abstract: Nest sanitation is a well-documented behavior in birds, with benefits including less damage to eggs and chicks, lowering the risk of infection/infestation, and reduced nest detection by predators. Despite these clear benefits, here we report the first known documented case of a dead chick being placed back into a nest, presumably by a parent. We documented this behavior in a Field Sparrow (*Spizella pusilla*) as an incidental behavior observed as part of a larger multi-year provisioning study. Although the motivation behind returning a dead chick to a nest remains unclear, this is the first known reported case of such a behavior in any bird species.

Keywords: behavior, dead nestling, Field Sparrow, nestling, nest sanitation, *Spizella pusilla*

Many species of passerines engage in a variety of nest sanitation practices. Guigueno and Sealy (2012) reported 274 species of 40 families that engaged in some form of nest sanitation including the removal of debris such as twigs or other vegetation, foreign non-egg-shaped objects, cracked or broken eggs, unhatched eggs, egg shells, fecal sacs, and dead chicks. A clean nest may reduce parasitic infestations and olfaction- or vision-based detection by predators (Tinbergen et al. 1962, Petit et al. 1989). However, there has been limited recent experimental support for these potential adaptive values of nest sanitation (Ibáñez-Álamo et al. 2014, 2016).

The removal of sharp and abrasive objects may prevent damage to existing eggs. Sticks experimentally placed into nests were buried or removed from 100% of nests during incubation in the Great Reed Warbler (*Acrocephalus arundinaceus*) (Moskát et al. 2003). Furthermore, the removal of eggshells reduces the likelihood of "capping" where portions of an unhatched egg become trapped within the shell of a previously hatched egg thus interfering with hatching

(Derrickson and Warkentin 1991). Cracked eggs can also leak their contents, potentially adhering eggs together and resulting in damage to the eggs or nest lining (Kemal and Rothstein 1988).

Although the removal of waste, especially fecal sacs, from the nest by attending parents is well documented (Middleton 1998, Grant and Knapton 2012), reports of the removal of deceased chicks are less common. However, within the passerines, the presence of a deceased chick in the nest appears to be closely monitored by the parents. The removal of dead nestlings by parent birds has been documented in at least 20 North American species (Guigueno and Sealy 2012). Entire clutches of dead nestlings were removed from a Red-faced Warbler (*Cardellina rubrifrons*) nest after a thunderstorm (Kirkpatrick et al. 2009). Female Tree Swallows (*Tachycineta bicolor*) removed dead nestlings from the nests of conspecifics where they displaced the original female and remained to raise their own offspring (Chek and Robertson 1991). Within the family Passerellidae, Yellow-eyed Juncos (*Junco phaeonotus*) were documented removing two dead nestlings after a thunderstorm (Kirkpatrick et al. 2009) and in the Dark-eyed Junco (*Junco hyemalis*), both parents removed dead nestlings within 4 to 12 hours (Nolan et al. 2002). Adult Lincoln's Sparrows (*Melospiza lincolnii*) carried away experimental objects and dead nestlings immediately (Ammon 1995). Wheelwright and Rising (2008) report parent Savannah Sparrows (*Passerculus sandwichensis*) removing dead nestlings younger than 4–5 days old. Within *Spizella* sparrows (the genus of interest in this behavioral note), Brewer's Sparrows (*S. breweri*) also removed dead chicks within a few hours (Rotenberry et al. 1999). Like many species, Field Sparrows (*S. pusilla*) have also been reported to remove fecal sacs (Carey et al. 2008).

As part of a larger, on-going study of parental behavior of Field Sparrows, we observed the removal of both fecal sacs and dead chicks in this species. Here we report a case of a dead nestling Field Sparrow found outside of the nest bowl and subsequently returned to its nest presumably by the attending parents; this was the only known instance of such behavior over the course of this extensive three-year study and, to our knowledge, there are no known instances of this behavior reported in any other avian species.

SITE AND METHODS

Our field site is a 91.7-ha (226.6-ac) Conservation Reserve Program warm season grassland managed by the Chester River Field Research Station (CRFRS) in Queen Anne's County, Maryland (39.23° N, 76.00° W; for more information on establishment, management, and bird studies, see Gill et al. 2006). As part of a study of parental provisioning, we searched for and monitored Field Sparrow nests over three consecutive summers (2014–2016). Field Sparrow territories were mapped, and adults were color-banded and monitored to identify mating

pairs and their nest sites. A video camera recorded parental provisioning rates at nests on approximately day three, five, and seven post-hatching.

OBSERVATIONS

Nest NF12FS2 was found on 19 May 2016 at 0806 EST with two live Field Sparrow chicks in the bowl and one dead chick on the nest rim, approximately 4 cm (1.6 in) from the center of the nest bowl. The chicks were all the same size and were determined to have hatched the day before based on small body size and limited feather development (MEG, pers. obs.). The nest was photographed by JMC (Figure 1) and the location was marked using a hand-held global positioning system (Garmin GPSMAP 62 receiver). A five-year-old male and four-year-old female attended the nest. Although both birds were present in the study area for the previous two years, this was their first nesting attempt as a mated pair. The open cup nest was built into the duff of cool season grasses and was 100% visible from above. Forty-five minutes later, MEG photographed three chicks in the nest, two living and one dead (Figure 2). Upon comparing the two photographs, we determined that the dead chick on the nest rim was subsequently placed back into the nest bowl with the living chicks. The dead chick was pale in color and easily distinguishable from its nestmates, suggesting it had been dead for several hours, but had no visible signs of injury. We removed the dead nestling and continued to monitor the nest. One of the two remaining chicks disappeared the following day. The surviving chick was banded with a USGS aluminum band on 25 May 2016 and fledged 28 May 2016. The parents held their territory for the remainder of the breeding season, but we were unable to find any additional nests for this pair.

DISCUSSION

Here we report the first documented case of a dead passerine nestling being returned to its nest after having been removed. Although we cannot verify precisely where or how the nestling died, a dead chick found on the rim of the nest and subsequently found back into the bowl is noteworthy. We assume that in this case, one parent recognized the chick as dead and attempted to remove it from the nest as part of its nest sanitation; this sort of behavior was documented in video footage collected at other nests as part of a larger study. Since the chick was just outside the nest, perhaps the bird was interrupted in the task. Unfortunately, the activity at the nest was not yet being video recorded at the time that this behavior occurred. As such, the parents' behaviors are largely conjecture. However, time-stamped photo documentation of the nest clearly indicated that the dead chick was placed back into the nest, presumably by a parent; the chick was one day post-hatching and thus too small to leave the nest on its own volition. A predator could have been interrupted while attempting to remove the chick while it was alive, but this seems unlikely due to the

Figure 1. Field Sparrow nest NF12FS2 at 0806 on 19 May 2016. The nest contained two living chicks and one dead chick just outside the nest rim. Chester River Field Research Station, Queen Anne's County, Maryland.

Figure 2. Field Sparrow nest NF12FS2 at 0851 on 19 May 2016. Note that 45 minutes have elapsed and the dead chick has been moved from its previous position outside of the nest rim back into the nest with the two living chicks. Chester River Field Research Station, Queen Anne's County, Maryland.

defenseless nature of the chick and lack of visible signs of trauma or nest disturbance.

Although some species are known to move eggs into nests (Tenaza 1971, Prevett and Prevett 1973, Kim et al. 2006), the placement of chicks into nests has received little attention. An adult bird's ability to carry away a dead chick implies that birds presumably have some ability to move chicks within or between nests, particularly if a chick was in danger of falling out or wriggling away from the nest. Schaefer and Dinsmore (1992) provided one odd report of a living chick being moved to another nest; an additional American Crow (*Corvus brachyrhynchos*) nestling appeared at a nest tended by several adults. Based on the chick's size relative to the others in the nest, Schaefer and Dinsmore (1992) presumed that the chick was most likely to have been taken from another nest as a very recently hatched nestling. Although there is some evidence to suggest that birds may move living chicks between nests, the observations reported here are unexpected, given the potential predation- and sanitation-based risks associated with placing a dead chick back into a nest.

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2016 Maryland May Count: Corrigendum

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Table 4 of the 2016 Maryland May Count article (Veek 2017) mistakenly reported 65 Mute Swans for Garrett County. The sighting should have been reported as Wood Ducks.

The corrected data lines in Table 4 (Western Shore) should read as follows:

Species	GA	AL	WA	FR	MO	CA	HO	BA	PG	AA	CH	CT	SM	HA
Mute Swan				1									10	9
Tundra Swan				1										1
Wood Duck	65	28	9	24	1	2	40	5	95	43	32	14	2	23

Accordingly, the total numbers reported in Table 5 (Eastern Shore and total) should read as follow:

Species	CE	KE	TA	CN	DO	SO	WI	WO	Total
Mute Swan									20
Tundra Swan					1				3
Wood Duck		23	7	27	22	1	2	1	466

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Maryland Christmas Bird Counts (117th CBC) December 2016 through January 2017

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Maryland birders (and beyond) lost a great champion of the CBCs in 2017 when Chan Robbins passed away (20 March 2017). He always summarized all the Maryland counts here in *Maryland Birdlife*. I'm hoping to keep that tradition going for a while longer. I am sure many readers will remember seeing him at count tallies often arriving later than others from being in the field. We will miss his numerous contributions to the CBCs and to this publication.

Adverse weather hampered results on a few counts this year. The Allegany County and Oakland counts (both held on Saturday, 17 December 2016) encountered icy conditions that kept many counters at home in the early morning. Deep Creek Lake was reportedly ice-free during Wednesday's scouting but frozen on count day resulting in a high number of "count week" (cw) species on the Oakland count. The Elkton count had some heavy afternoon rain. Port Tobacco experienced a cold front resulting in lower temperatures (-7° C [20° F]) accompanied by light rain and increased wind in the afternoon (~2:30 p.m.).

Count names, abbreviation codes, survey dates, and compilers (including co-compilers) are presented in Table 1. Additional effort data (field counters, numbers of parties, party hours and miles, feeder counters and hours, and night hours and miles) are also tabulated (Table 2). Seneca had the most field counters (115) and party hours (262.25) and Allegany County had the fewest (4) and (9.25). Seneca also had the most feeder counters (13).

Two **Pink-footed Geese** showed up on the Lower Kent County count. Single Eurasian Wigeons were at Ocean City and Seneca. Annapolis-Gibson Island had their fourth **Red-necked Grebe**. Seneca had an **Eared Grebe** for count week. The Patuxent River count had a **Rufous Hummingbird**. There were 20 **Sandhill Cranes** at Triadelphia (Seneca and Rock Run each had two). The Ocean City count had 2 **Piping Plovers**. Ocean City had a **Dovekie**. Oakland had a Bonaparte's Gull (cw). Denton had their third **Black-headed Gull**. Lower Kent County had a Laughing Gull. Middle River had an **Iceland Gull**. Twenty-six **American White Pelicans** continued to be counted for Southern Dorchester County. There was an influx of Brown Pelicans in the Chesapeake Bay this year

with one at Annapolis-Gibson Island, 30 at Jug Bay (all-time count high), Patuxent River (71), and St. Michaels (11). The Southern Dorchester County count had an American Bittern. The Ocean City count had a high of 12 Orange-crowned Warblers. Chesterville had 3 Orange-crowneds. Jug Bay had a **Nashville Warbler** (Triadelphia Reservoir had one for count week). Ocean City had an **Audubon's Yellow-rumped Warbler**. Crisfield had a **Prairie Warbler** (their second). Ocean City had a **Wilson's Warbler** and a **Yellow-breasted Chat**. Both Chesterville and Ocean City had single **Clay-colored Sparrows**. Chesterville had a **Grasshopper Sparrow**. Seneca had a **LeConte's Sparrow**. Ocean City had a single **Nelson's Sparrow**. One of the Fox Sparrows on the Annapolis-Gibson Island count was considered to be the "slate-colored" variety. Seneca had a **Blue Grosbeak**. Ocean City had a **Dickcissel**. Seneca and Bowie each had a Baltimore Oriole.

Table 1. 2016–2017 Maryland Christmas Bird Counts: abbreviations, survey dates, and compilers.

Christmas Bird Count	Abbreviation	Survey Date	Compiler
Allegany County	MDAC	17 Dec 2016	J.B. Churchill
Annapolis-Gibson Island	MDAG	01 Jan 2017	Hal Wierenga Lynn Davidson Sue Ricciardi
Bowie	MDBO	02 Jan 2017	David Mozurkewich
Catoctin Mountain	MDCM	18 Dec 2016	Kathy Brown
Chesterville	MDCV	01 Jan 2017	Maren Gimpel
Crisfield	MDCR	27 Dec 2016	Paul Bystrak
Denton	MDDE	17 Dec 2016	Steve Westre
Elkton	MDEL	18 Dec 2016	Russell Kovach Laura Balascio
Jug Bay	MDJB	18 Dec 2016	Sam Droege
Lower Kent County	MDLK	18 Dec 2016	Nancy Martin Walter Ellison
Middle River	MDMR	31 Dec 2016	Pete Webb
Oakland	MDOA	17 Dec 2016	Connie Skipper
Ocean City	MDOC	28 Dec 2016	Mark Hoffman
Patuxent River	MDPR	01 Jan 2017	Andrew Brown
Point Lookout	MDPL	18 Dec 2016	Bob Boxwell
Port Tobacco	MDPT	18 Dec 2016	Gwen Brewer
Rock Run	MDRR	31 Dec 2016	Rick Cheicante
St. Michaels	MDST	18 Dec 2016	Wayne Bell
Salisbury	MDSA	18 Dec 2016	Mike Walsh
Seneca	MDSE	18 Dec 2016	Jim Nelson
Southern Dorchester County	MDSD	19 Dec 2016	Bruce Peterjohn
Sugarloaf Mountain	MDSM	02 Jan 2017	Janet Millenson
Triadelphia Reservoir	MDTR	17 Dec 2016	David Holmes
Washington County	MDWC	31 Dec 2016	Mark Abdy

Table 2. 2016–2017 Maryland Christmas Bird Counts: summary.

Christmas Bird Count	Count Date	Field Counters	Max Parties	Party Hours	Party Miles	Feeder Counters	Feeder Hours	Night Hours	Night Miles
Allegany County	17 Dec 2016	4	4	9.25	28.75	2	3		
Annapolis-Gibson Island	01 Jan 2017	65	44	250	613	7	26	11	31
Bowie	02 Jan 2017	82	43	245	548.5	6	17.5	7	37
Catoctin Mountain	18 Dec 2016	15	7	50	505		0	1.5	22
Chesterville	01 Jan 2017	22	12	103.41	513.1	1	4	16	60
Crisfield	27 Dec 2016	21	13	80.62	317.65		0	4	12.25
Denton	17 Dec 2016	12	7	42.25	301	1	5	4	
Elkton	18 Dec 2016	17	9	58.25	312.9	1	4	1.5	
Jug Bay	18 Dec 2016	26	20	111.03	290.95				
Lower Kent County	18 Dec 2016	21	12	114.75	454.6			4.75	13
Middle River	31 Dec 2016	35	17	15.2	192.7	2	5	0.3	0.3
Oakland	17 Dec 2016	16	9	55.75	315.15	6	5.75		
Ocean City	28 Dec 2016	57	29	242.6	660.9		0	10.8	
Patuxent River	01 Jan 2017	17	11	70.25	259	1	2	2.25	1.5
Point Lookout	18 Dec 2016	16	7	37.33	171.95			2	
Port Tobacco	18 Dec 2016	15	9	55	217.5			1.75	1.25
Rock Run	31 Dec 2016	47	16	119.65	409		2	7.25	
St. Michaels	18 Dec 2016	33	12	87.22	405.51	6	7	13.82	72.5
Salisbury	18 Dec 2016	27	11	95.75	398	1	1	6.5	
Seneca	18 Dec 2016	115	50	262.25	464	13	32.25	1	0.5
Southern Dorchester County	19 Dec 2016	14	12	79.75	338.5			2.25	7
Sugarloaf Mountain	02 Jan 2017	61	31	153	490.75	4	3	1.5	
Triadelphia Reservoir	17 Dec 2016	37	20	73.25	192.95	5	8	1.75	10
Washington County	31 Dec 2016	26	14			3			

The inland counts are summarized in Table 3; the tidewater counts, in Tables 4 (Western Shore) and 5 (Eastern Shore).

Table 3. 2016–2017 Maryland Christmas Bird Counts: inland counts.
(bolded species name = unusual for the count; bolded data value = high count record; cw = observed during count week)

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Snow Goose							1	62		6	24,983
Ross's Goose	1				cw		3				2
Greater White-fronted Goose					cw						
Pink-footed Goose											
Brant (Atlantic)											
Cackling Goose								1	1		9
Canada Goose	909	487	737	516	7,615	4,729	2,316	8,786	11,277	5,209	16,216
Greater White-fronted x Canada Goose (hybrid)											
Mute Swan						2		10			1
Trumpeter Swan								1	**3**		
Tundra Swan	41					6	1	113			1,037
Wood Duck		1	6		1	14	1		11		4
Blue-winged Teal											
Northern Shoveler	cw					8					3
Gadwall	4	cw			34	2	4	83	18	2	48
Eurasian Wigeon						1					
American Wigeon		cw			2	27	3	cw	3		2
Mallard	636	179	432	138	230	672	75	1,172	459	275	768
American Black Duck	33	29	2	34	44	27	9	215	34	2	172
American Black Duck x Mallard (hybrid)									1		
Northern Pintail	7		1		cw	cw		cw			1
Green-winged Teal	cw				17	8				5	5
Canvasback	1				4	cw		92			
Redhead	cw				3	15	3	2	**8**		
Ring-necked Duck	2				87	410	2	126	434	87	166
Greater Scaup	cw				1			1			
Lesser Scaup	8	1				2	8	415		4	2
Greater/Lesser Scaup											
Common Eider											
Harlequin Duck											
Surf Scoter											
White-winged Scoter											
Black Scoter											
scoter sp.											
Long-tailed Duck	cw	cw						2			
Bufflehead	21	1	7		124	177	7	91	**11**	9	5
Common Goldeneye	1	cw						33			

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Hooded Merganser	60	28	3	3	85	105	67	231	144	20	123
Common Merganser	26	cw	21		2	11	1,045	284	1	30	169
Red-breasted Merganser						1		cw			
Ruddy Duck	63				48	14	13	224	13	117	
duck sp.					4	37		15			
Northern Bobwhite											29
Wild Turkey	55	3	143	**38**	17	33	19		3		2
Pied-billed Grebe	15	2			5	3	5	48	6	3	11
Horned Grebe	1				1	2	3	4	1		
Red-necked Grebe											
Eared Grebe						cw					
Rock Pigeon	17	116	358	479	166	437	37	522	1,260	40	167
Mourning Dove	54	104	111	290	595	439	287	151	751	58	414
Rufous Hummingbird											
Clapper Rail											
Virginia Rail									**4**		2
Rallus sp.											
Sora											
American Coot	1	3			25	74	1	30	16	9	1
Sandhill Crane						2	20	2			
American Oystercatcher											
Black-bellied Plover											
Piping Plover											
Killdeer	1	5		2			4	11	19		1
Marbled Godwit											
Ruddy Turnstone											
Sanderling											
Dunlin											
Purple Sandpiper											
Long-billed Dowitcher											
American Woodcock									1		
Wilson's Snipe								1	8		
Spotted Sandpiper						1					
Lesser Yellowlegs											
Willet											
Greater Yellowlegs											
Greater/Lesser Yellowlegs									1		
Dovekie											
alcid sp.											
Bonaparte's Gull	cw							11		1	
Black-headed Gull											
Laughing Gull											
Ring-billed Gull	5	1			11	910	20	2,631	566	962	719
Herring Gull						2	1	1,116	37	388	3

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Iceland Gull											
Lesser Black-backed Gull								4		2	
Great Black-backed Gull								396	2	88	1
gull sp.					2	481		30	25		
Forster's Tern											
Red-throated Loon											
Common Loon	1				1						
loon sp.											
Northern Gannet											
Double-crested Cormorant	cw				cw	4	3	88		15	12
Great Cormorant											
American White Pelican										1	
Brown Pelican											
American Bittern											
Great Blue Heron	1	3	4	4	28	59	4	142	33	23	65
Great Egret											
Black-crowned Night-Heron								10			
Black Vulture			29	**381**	108	265	30	700	88	93	87
Turkey Vulture			81	120	45	458	42	306	23	172	331
Osprey						1					
Bald Eagle	5	2	5	4	7	12	30	261	27	30	79
Northern Harrier	1		1	1	2	5	6	4	2	1	13
Sharp-shinned Hawk	1	1	2	1	3	7	4	10	6	2	11
Cooper's Hawk	1	2	1	5	9	8	5	11	10	3	14
Accipiter sp.											
Red-shouldered Hawk	1	2	7	15	55	75	35	25	33	10	15
Red-tailed Hawk	13	2	22	40	37	49	9	41	19	10	57
Golden Eagle											
Barn Owl											
Eastern Screech-Owl			3		4			13	1		36
Great Horned Owl			1		1	2	3	13	4		49
Barred Owl	1		1	5	5	6		5	9		23
Short-eared Owl							3				
Northern Saw-whet Owl								2			1
Belted Kingfisher	2	2	8	6	27	19	10	27	18	1	14
Red-headed Woodpecker	3		4			34			5		
Red-bellied Woodpecker	22	5	69	54	153	326	78	95	257	42	159
Yellow-bellied Sapsucker	1	2		12	34	69	8	24	31	13	35
Downy Woodpecker	22	10	52	69	176	327	81	89	171	28	62
Hairy Woodpecker	10	1	10	9	30	65	20	11	34	4	22
Northern Flicker	cw	11	12	54	90	152	29	72	227	73	121
Pileated Woodpecker	5	8	20	13	51	99	20	18	42	8	11
American Kestrel	2	3	3		11	5	1	3	2	1	13
Merlin						cw		4		1	3

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Peregrine Falcon						1		4			
Eastern Phoebe		1			1	2		1	7		1
Blue Jay	71	19	85	112	220	605	170	183	617	173	278
American Crow	2,630	153	324	139	1,689	1,223	332	558	1,989	273	164
Fish Crow					137	543	14	13	161	8	1
crow sp.					2,088	2,171	211	8	745		11
Common Raven	13	7	6	**27**	13	6	1		3		
Horned Lark		cw	100	132	30	55	4	1	16		1,201
Tree Swallow											
Carolina Chickadee			326	151	509	905	180	280	482	159	282
Black-capped Chickadee	194	22						4		1	
Tufted Titmouse	123	19	136	79	255	441	149	176	346	110	163
Red-breasted Nuthatch	7			3	3	13	4	15	27	10	12
White-breasted Nuthatch	48	15	67	37	197	270	72	99	160	44	101
Brown-headed Nuthatch											
Brown Creeper	8	1	4	2	28	57	2	20	20	9	15
House Wren						1			1		
Winter Wren		2	3	4	20	48	8	18	34	4	24
Sedge Wren											
Marsh Wren											
Carolina Wren	9	10	74	119	252	454	75	128	326	100	144
Golden-crowned Kinglet	5	cw	16	8	51	173	8	86	32	8	50
Ruby-crowned Kinglet					5	35	1	25	9	4	30
kinglet sp.						1					
Eastern Bluebird		7	162	92	173	271	135	160	117	78	198
Hermit Thrush				5	11	5	11	19	42	14	28
American Robin	3	35	22	75	177	555	92	996	2,115	451	428
Gray Catbird					cw	2	3	2	5		4
Brown Thrasher								2	6		6
Northern Mockingbird	cw	14	31	61	118	105	37	75	110	65	85
European Starling	220	111	2,262	4,724	4,800	2,907	790	1,330	4,423	539	1,960
Cedar Waxwing	cw	28	1	61	107	528	42	11	128	41	86
House Sparrow	30	75	182	125	195	128	83	216	459	79	62
American Pipit				1	5	41		25			408
House Finch	18	18	90	32	150	209	120	147	191	54	211
Purple Finch	cw		1		2	11	1	2	25	3	2
Common Redpoll											
Pine Siskin	2										
American Goldfinch	18	31	52	64	257	458	164	192	317	56	171
Lapland Longspur											2
Snow Bunting											
Eastern Towhee	1		1		10	23	19	15	135	11	77
American Tree Sparrow	17				10	6		7	12		2
Chipping Sparrow				2	14	cw	21	24	21	1	7

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Clay-colored Sparrow											1
Field Sparrow		2		1	41	41	15	17	65	18	163
Vesper Sparrow								1			
Savannah Sparrow						47	12	58	128		104
Savannah Sparrow (Ipswich)											
Grasshopper Sparrow											1
LeConte's Sparrow						**1**					
Nelson's Sparrow											
Fox Sparrow				2	6	13	7	2	37	2	11
Fox Sparrow (Slate-colored)											
Song Sparrow	10	32	22	58	361	435	225	363	787	132	994
Lincoln's Sparrow					cw				1		
Swamp Sparrow	cw				36	19	17	16	171	6	62
White-throated Sparrow	3	22	258	302	1,060	1,082	784	715	2,190	415	1,742
White-crowned Sparrow		5	7	41	133	19	1	4	29		156
sparrow sp.					12						
Dark-eyed Junco	169	81	379	556	1,005	872	786	814	2,016	793	1,639
Yellow-breasted Chat											
Eastern Meadowlark		2			1	9	5	1	12		25
Baltimore Oriole						1			1		
Red-winged Blackbird	30	6		8	274	104	115	456	1,126	7,610	263,623
Brown-headed Cowbird	cw	2	5	280	24	71	23	56	54	36	46
Rusty Blackbird					12	6		7	3		2
Common Grackle	4		1		4	70	15	9,225	1,940	2,527	45,113
Boat-tailed Grackle											
blackbird sp.					35	100	158		275		
Orange-crowned Warbler								cw			3
Nashville Warbler							cw				
Common Yellowthroat											
Palm Warbler											
Palm Warbler (Western)											23
Palm Warbler (Yellow)								8			9
Pine Warbler								1			4
Yellow-rumped Warbler		3	6	2	2	22		11	4	2	17
Yellow-rumped Warbler (Audubon's)											
Prairie Warbler											
Black-throated Gray Warbler								**1**			
Wilson's Warbler											
Northern Cardinal	37	49	294	278	584	775	307	357	640	175	427
Blue Grosbeak						**1**					
Dickcissel											

Table 4. 2016–2017 Maryland Christmas Bird Counts: tidewater counts (Western Shore). (bolded species name = unusual for the count; bolded data value = high count record; cw = observed during count week)

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Snow Goose				3		
Ross's Goose						
Greater White-fronted Goose			1			
Pink-footed Goose						
Brant (Atlantic)						
Cackling Goose	5			2		
Canada Goose	5,701	2,326	2,556	7,198	2,993	2,882
Greater White-fronted x Canada Goose (hybrid)						
Mute Swan			4	1		
Trumpeter Swan	1					
Tundra Swan	427	9	54	198	27	33
Wood Duck	5		**6**	8	3	
Blue-winged Teal						
Northern Shoveler		131		40		
Gadwall	37	190	18	69	24	
Eurasian Wigeon						
American Wigeon	1	8	15	12		
Mallard	910	635	184	646	50	48
American Black Duck	47	9	3	395	12	12
American Black Duck x Mallard (hybrid)						
Northern Pintail			**4**	9		
Green-winged Teal				29		
Canvasback	291	cw		1	1	
Redhead	18	1	2			
Ring-necked Duck	10	8	3	32		
Greater Scaup	484	2		22		7
Lesser Scaup	288	117	120	11	516	121
Greater/Lesser Scaup	627		134	35		685
Common Eider						
Harlequin Duck						
Surf Scoter	676			4		16
White-winged Scoter	1			1		
Black Scoter	104		809	1,380		2,617
scoter sp.	180					
Long-tailed Duck	83		287	2		96
Bufflehead	2,323	147	817	496	336	1,355
Common Goldeneye	76	cw	168	72		302
Hooded Merganser	111	97	44	10	1	3

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Common Merganser	1	39		100	7	1
Red-breasted Merganser	33	11	14	4		14
Ruddy Duck	8,043	4,349	7,556	251	2,500	10,607
duck sp.						
Northern Bobwhite						
Wild Turkey			**25**		1	cw
Pied-billed Grebe	17	10	3	1	2	2
Horned Grebe	20	cw	88	5	2	38
Red-necked Grebe	1					
Eared Grebe						
Rock Pigeon	124	93	14	9	2	
Mourning Dove	464	218	61	258	41	38
Rufous Hummingbird			1			
Clapper Rail						3
Virginia Rail	4	1		3		
Rallus sp.						
Sora				1		
American Coot	33	7	19			
Sandhill Crane						
American Oystercatcher						
Black-bellied Plover						
Piping Plover						
Killdeer	7	29	8	65	50	35
Marbled Godwit						
Ruddy Turnstone						
Sanderling						
Dunlin			36	7		
Purple Sandpiper				8		
Long-billed Dowitcher						
American Woodcock	3			2		
Wilson's Snipe				5		
Spotted Sandpiper						
Lesser Yellowlegs						
Willet						
Greater Yellowlegs						1
Greater/Lesser Yellowlegs						
Dovekie						
alcid sp.						
Bonaparte's Gull		4		1		28
Black-headed Gull						
Laughing Gull				70		
Ring-billed Gull	676	1,654	687	2,465	693	589
Herring Gull	507	1,147	163	1,837	87	123

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Iceland Gull	cw	1				
Lesser Black-backed Gull		2		2		
Great Black-backed Gull	308	123	186	127		68
gull sp.	179	125		407		10
Forster's Tern						
Red-throated Loon	6					
Common Loon	11		**72**	6		46
loon sp.						
Northern Gannet			4	23		66
Double-crested Cormorant	8,272	135	**206**	136	356	31
Great Cormorant						
American White Pelican						
Brown Pelican	1		71	30		
American Bittern						
Great Blue Heron	88	36	21	35	24	16
Great Egret						
Black-crowned Night-Heron						
Black Vulture	245	61	83	331	162	69
Turkey Vulture	195	73	105	279	218	80
Osprey						
Bald Eagle	52	**60**	21	43	70	39
Northern Harrier		5	1	11	7	
Sharp-shinned Hawk	6	8	3		2	1
Cooper's Hawk	12	5		5		
Accipiter sp.		1		1		1
Red-shouldered Hawk	30	15	6	16	3	6
Red-tailed Hawk	40	21	11	17	11	5
Golden Eagle						
Barn Owl				4		
Eastern Screech-Owl	12	1	1	1		
Great Horned Owl	14	1	8	2		2
Barred Owl	6		4	6	1	
Short-eared Owl		cw				
Northern Saw-whet Owl						
Belted Kingfisher	30		12	18	15	9
Red-headed Woodpecker	1		**19**		23	1
Red-bellied Woodpecker	224	58	29	110	64	38
Yellow-bellied Sapsucker	51	7	8	10	8	7
Downy Woodpecker	192	74	23	67	23	15
Hairy Woodpecker	25	6	6	22	12	1
Northern Flicker	106	48	26	102	57	42
Pileated Woodpecker	37	4	3	25	8	4
American Kestrel		2	7	2	3	3

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Merlin	2	1				
Peregrine Falcon	4	4		1		
Eastern Phoebe	3	1		5	1	3
Blue Jay	529	162	57	265	150	27
American Crow	691	171	326	510	210	161
Fish Crow	104	364		193		
crow sp.	55	42		237	3	12
Common Raven				1		
Horned Lark						1
Tree Swallow						
Carolina Chickadee	622	112	83	171	80	138
Black-capped Chickadee						
Tufted Titmouse	445	81	57	158	88	71
Red-breasted Nuthatch	37	4	11	21	4	4
White-breasted Nuthatch	223	68	23	98	29	7
Brown-headed Nuthatch			10			42
Brown Creeper	20	3	2	3	5	
House Wren	2					1
Winter Wren	42	7	11	30	3	2
Sedge Wren						
Marsh Wren		cw				
Carolina Wren	358	74	42	253	84	82
Golden-crowned Kinglet	15	17	12	44	11	7
Ruby-crowned Kinglet	21	14	9	27	10	13
kinglet sp.						
Eastern Bluebird	171	22	57	161	87	144
Hermit Thrush	96	8	13	42	7	3
American Robin	4,521	1,166	620	1,064	1,058	289
Gray Catbird	13	2	1	8	2	
Brown Thrasher	53	2	2	13	5	2
Northern Mockingbird	115	47	35	54	27	21
European Starling	1,382	2,204	1,248	1,030	614	931
Cedar Waxwing	500	2	170	272	242	293
House Sparrow	391	171	36	128	21	31
American Pipit						126
House Finch	270	137	42	113	18	85
Purple Finch	12	4		3		cw
Common Redpoll			1			
Pine Siskin						
American Goldfinch	385	102	21	293	43	130
Lapland Longspur						
Snow Bunting						3
Eastern Towhee	85	24	37	57	12	8

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
American Tree Sparrow		7				
Chipping Sparrow	11	1	3	13	5	6
Clay-colored Sparrow						
Field Sparrow	64	8	8	29	36	
Vesper Sparrow						
Savannah Sparrow	5			10	8	16
Savannah Sparrow (Ipswich)						
Grasshopper Sparrow						
LeConte's Sparrow						
Nelson's Sparrow						
Fox Sparrow	11	5	2	6		4
Fox Sparrow (Slate-colored)	**1**					
Song Sparrow	522	128	46	377	89	38
Lincoln's Sparrow						
Swamp Sparrow	75	17	29	120	20	
White-throated Sparrow	1,782	327	252	1,060	307	147
White-crowned Sparrow	20	4	5		32	
sparrow sp.						
Dark-eyed Junco	1,134	582	297	764	476	182
Yellow-breasted Chat						
Eastern Meadowlark		1	11		38	35
Baltimore Oriole						
Red-winged Blackbird	805	696	280	5,648	944	300
Brown-headed Cowbird	252	92	72	5	15	11
Rusty Blackbird		6	1	14		
Common Grackle	3,470	86	198	17,161	1,321	162
Boat-tailed Grackle						
blackbird sp.	6	266		10,004	9	
Orange-crowned Warbler						
Nashville Warbler				**1**		
Common Yellowthroat						
Palm Warbler						
Palm Warbler (Western)						
Palm Warbler (Yellow)						
Pine Warbler		1	1	1		5
Yellow-rumped Warbler	48	23	20	1	173	16
Yellow-rumped Warbler (Audubon's)						
Prairie Warbler						
Black-throated Gray Warbler						
Wilson's Warbler						
Northern Cardinal	779	134	107	323	144	135
Blue Grosbeak						
Dickcissel						

Table 5. 2016–2017 Maryland Christmas Bird Counts: tidewater counts (Eastern Shore). (bolded species name = unusual for the count; bolded data value = high count record; cw = observed during count week)

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Snow Goose	1,708	83	601	27		1	29,300
Ross's Goose							
Greater White-fronted Goose			1				
Pink-footed Goose	**2**						
Brant (Atlantic)							1,863
Cackling Goose	13						1
Canada Goose	35,514	3,581	45,408	10,332	1,204	6,653	1,863
Greater White-fronted x Canada Goose (hybrid)	1						
Mute Swan							2
Trumpeter Swan							
Tundra Swan	434	72	395	508	19	12	1,675
Wood Duck	3	11	5	2	8	5	35
Blue-winged Teal				3	2		
Northern Shoveler	92		6	60			135
Gadwall	192		15	67	49	1	204
Eurasian Wigeon							1
American Wigeon	32		cw		1		217
Mallard	1,809	250	377	5,635	207	251	2,709
American Black Duck	429	8	56	287	89	70	898
American Black Duck x Mallard (hybrid)	1						1
Northern Pintail	58	2	1	1,252	8		75
Green-winged Teal	11			19	**226**	37	80
Canvasback	16,800		64		2		544
Redhead	244		3		2		14
Ring-necked Duck	414	82		27	**12**	1	495
Greater Scaup	13,377	1				2	
Lesser Scaup	128,254		182		3		41
Greater/Lesser Scaup	28,000		4				4
Common Eider							11
Harlequin Duck							2
Surf Scoter	2		163		44		181
White-winged Scoter	5		4				9
Black Scoter	3				2		167
scoter sp.			500		4		480
Long-tailed Duck	121		75			1	35
Bufflehead	1,211	**42**	1,397	292	1,246	54	3,388
Common Goldeneye	259		90	21	2	1	4
Hooded Merganser	32	15	55	118	52	15	349

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Common Merganser	5	16		8			cw
Red-breasted Merganser	34		12		18	6	145
Ruddy Duck	3,250	14	483	42	282	30	162
duck sp.	10,000				250		
Northern Bobwhite		2			3		1
Wild Turkey	58	26	62	4	19	1	3
Pied-billed Grebe	1			2			36
Horned Grebe	5		21	14	14		115
Red-necked Grebe							
Eared Grebe							
Rock Pigeon	14	183	65	10	146	75	390
Mourning Dove	520	178	223	86	307	210	892
Rufous Hummingbird							
Clapper Rail				3	2	1	
Virginia Rail	3			5	17	2	8
Rallus sp.					14		
Sora							
American Coot	31	1		1			19
Sandhill Crane							
American Oystercatcher							56
Black-bellied Plover							99
Piping Plover							2
Killdeer	4	17	2	48	11	16	91
Marbled Godwit							4
Ruddy Turnstone							14
Sanderling							315
Dunlin			cw	231	455		4,676
Purple Sandpiper							9
Long-billed Dowitcher					2		11
American Woodcock	2		1	2	1		12
Wilson's Snipe	2	5		4	8		8
Spotted Sandpiper							
Lesser Yellowlegs				2	7		
Willet					1		20
Greater Yellowlegs			5	46	119		54
Greater/Lesser Yellowlegs							
Dovekie							1
alcid sp.							2
Bonaparte's Gull	4		2				
Black-headed Gull		1					
Laughing Gull	1		1				
Ring-billed Gull	2,422	612	1,355	2,940	**10,293**	674	7,038
Herring Gull	305	50	192	326	414	613	643
Iceland Gull							

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Lesser Black-backed Gull							1
Great Black-backed Gull	99	2	38	10	40	100	93
gull sp.						45	220
Forster's Tern				2	2	**1**	46
Red-throated Loon	1				1	3	364
Common Loon	11		33	2	7		110
loon sp.							5
Northern Gannet			37				577
Double-crested Cormorant	302	4	8		2	96	54
Great Cormorant	2						1
American White Pelican				26			5
Brown Pelican			11				
American Bittern				1			
Great Blue Heron	63	13	33	75	79	17	115
Great Egret				1	3		5
Black-crowned Night-Heron					8		3
Black Vulture	110	47	180	60	69	54	214
Turkey Vulture	389	145	414	245	773	586	1,067
Osprey						1	
Bald Eagle	160	32	81	186	94	92	123
Northern Harrier	19	4	5	51	36	4	27
Sharp-shinned Hawk	12	1	15	4	2	7	19
Cooper's Hawk	11	4	9	4	4	2	11
Accipiter sp.						1	1
Red-shouldered Hawk	11	7	2	5	2	6	15
Red-tailed Hawk	28	9	19	13	16	24	41
Golden Eagle				1			
Barn Owl							
Eastern Screech-Owl	3	5	17	6	7	9	33
Great Horned Owl	4	6	7	4	3	2	31
Barred Owl		6		1			2
Short-eared Owl				12	2		
Northern Saw-whet Owl							
Belted Kingfisher	10	7	15	14	24	20	30
Red-headed Woodpecker				3			
Red-bellied Woodpecker	146	37	61	40	41	51	80
Yellow-bellied Sapsucker	23	8	12	2	7	9	13
Downy Woodpecker	98	34	42	37	33	53	78
Hairy Woodpecker	25	8	14	5	9	5	23
Northern Flicker	170	57	98	57	76	63	93
Pileated Woodpecker	30	16	**20**	9	18	13	29
American Kestrel	5	11	7	8	19	11	18
Merlin	1		2	2	2	1	2
Peregrine Falcon	cw		1	1	1		1

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Eastern Phoebe	3	3		1	3	9	40
Blue Jay	428	78	249	46	32	137	159
American Crow	436	103	309	404	383	530	646
Fish Crow		8	1	203	37	73	139
crow sp.	19		74	1,635	338	10	35
Common Raven							
Horned Lark	168	172	2		2	1	145
Tree Swallow					3		
Carolina Chickadee	158	80	215	105	141	189	292
Black-capped Chickadee							
Tufted Titmouse	96	82	113	57	51	102	188
Red-breasted Nuthatch	23	11	43		9	19	76
White-breasted Nuthatch	88	14	31	12	1	3	15
Brown-headed Nuthatch	17		18	104	111	25	81
Brown Creeper	9	8	1	8	6	15	28
House Wren				1	8	3	12
Winter Wren	33	6	7	6	25	14	59
Sedge Wren	1				1	1	2
Marsh Wren	2			7	2		5
Carolina Wren	221	56	102	38	104	121	344
Golden-crowned Kinglet	25	28	13	45	78	73	125
Ruby-crowned Kinglet	38	2	9	31	33	48	51
kinglet sp.							
Eastern Bluebird	166	76	334	139	96	142	248
Hermit Thrush	14	15	11	10	13	28	72
American Robin	808	1,813	3,340	896	442	1,773	19,004
Gray Catbird	5		1	6	4	6	42
Brown Thrasher	10	7	8	7	4	7	31
Northern Mockingbird	88	50	107	25	42	52	139
European Starling	2,377	2,730	3,995	796	1,621	2,179	13,642
Cedar Waxwing	152	21	**1,689**	21	162	86	127
House Sparrow	179	69	31	16	42	4	199
American Pipit	117	1			9	3	68
House Finch	34	33	123	1	33	39	320
Purple Finch	5	9	8				18
Common Redpoll							
Pine Siskin							
American Goldfinch	138	70	144	122	41	53	183
Lapland Longspur							
Snow Bunting							13
Eastern Towhee	120	6	39	14	22	31	94
American Tree Sparrow							1
Chipping Sparrow	19	28	6	10	18	50	148
Clay-colored Sparrow							**1**

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Field Sparrow	35	14	21	18	10	25	77
Vesper Sparrow							1
Savannah Sparrow	50	13	19	83	66	22	127
Savannah Sparrow (Ipswich)							23
Grasshopper Sparrow							
LeConte's Sparrow							
Nelson's Sparrow							1
Fox Sparrow	23		4	31	25	16	109
Fox Sparrow (Slate-colored)							
Song Sparrow	638	131	202	201	228	237	748
Lincoln's Sparrow							
Swamp Sparrow	144	17	23	156	120	53	293
White-throated Sparrow	1,293	802	708	187	416	590	1,316
White-crowned Sparrow	5	2	4				2
sparrow sp.							
Dark-eyed Junco	667	1,050	784	359	327	606	653
Yellow-breasted Chat							**1**
Eastern Meadowlark	17	10	7	82	32	28	195
Baltimore Oriole							
Red-winged Blackbird	9,328	134	1,409	13,379	55,580	2,974	26,936
Brown-headed Cowbird	51		68	161	10	54	1,173
Rusty Blackbird	17	1	1	1	1	2	4
Common Grackle	6,549	17	106	10,805	19,450	10,281	78,796
Boat-tailed Grackle				52	39		1
blackbird sp.				2,000	5,100	102,000	22,000
Orange-crowned Warbler							12
Nashville Warbler							
Common Yellowthroat		1		2	1		5
Palm Warbler		7		1	3	6	5
Palm Warbler (Western)							14
Palm Warbler (Yellow)							8
Pine Warbler	4			3	6	5	33
Yellow-rumped Warbler	56	7	121	389	238	39	2501
Yellow-rumped Warbler (Audubon's)							**1**
Prairie Warbler					**1**		
Black-throated Gray Warbler							
Wilson's Warbler							**1**
Northern Cardinal	452	196	178	70	152	166	439
Blue Grosbeak							
Dickcissel							**1**

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2017 Maryland Mid-winter Bird Count

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The annual Maryland Mid-winter Bird Count was held on several weekend days between 21 January and 4 February 2017. Results were submitted from Frederick, Carroll, Howard, Baltimore, and Harford Counties (Table 1).

The weather on these count days was typical for this time of year. Temperatures ranged from the low 30°s F to low 40°s F. There was calm to light winds with partly cloudy skies. Patchy fog was noted in Baltimore County. Open water was reported for several count areas.

Table 1. 2017 Maryland Mid-winter Count: Participating counties, county codes, dates, and compilers.

County	County Code	Date	Compiler
Frederick	FR	29 January 2017	David Smith
Carroll	CA	21 January 2017	Don Jewell
Howard	HO	4 February 2017	Joe Hanfman
Baltimore	BA	21 January 2017	Kevin Graff
Harford	HA	28 January 2017	Rick Cheicante

A total of 173 field observers comprising 99 parties reported 118 species for a total of 78,612 birds (Table 2). The observers spent 319.08 hours on foot covering 259.8 miles. During the four day count, the observers also spent 190.25 hours traveling 1,835.2 miles by car. All five counties spent time owling covering 73.65 miles in 14.93 hours. A total of 25.48 hours was spent feeder watching.

Typical for this time of year, 22 species of waterfowl were observed during this year's count (Table 3). Canada Geese comprised the largest group with 15,489 individuals followed by Common Mergansers with 1,321.

The 14.93 hours spent owling this year produced 4 species for a total of 60 owls. Frederick County had a high count of 10 Eastern Screech-Owls; 2 Northern Saw-whet Owls were recorded in Howard County.

Table 2. 2017 Maryland Mid-winter Count: Summary.

	Frederick County	Carroll County	Howard County	Baltimore County	Harford County
Total Species	84	80	88	93	80
Total Birds	23,203	12,733	24,870	11,040	6,766
Start Time	0600	0530	0500	0730	0500
Stop Time	1730	1830	1900	1430	1900
Parties	16	49	7	20	7
Number of Observers	34	30	75	26	8
Hours Driving	80.42	32.65	50.70	2.48	24
Miles Driving	805	352.1	471.4	15.7	191
Hours Walking	48.33	46.25	160.9	48.3	15.3
Miles Walking	46	37.5	130.8	29.9	15.6
Hours Owling	5.53	1.35	5.3	0.5	2.25
Miles Owling	62.35	0.6	9.2	1.5	
Feeder Hours	1.33	17	5.9		1.25
Stationary Hours		2	3.4		

Two Iceland Gulls were recorded this year with Baltimore and Harford Counties each reporting one.

Observations of note for this year's count:

Howard County recorded 2 Long-tailed Ducks and was the only county to record all seven woodpeckers, being the only county with a Red-headed Woodpecker sighting.

Five species of warblers were included in this year's list. Carroll County recorded a Common Yellowthroat, Harford County recorded a Palm Warbler, Frederick, Howard and Baltimore Counties all had Yellow-rumped Warblers. Baltimore County also reported an Orange-crowned Warbler and a Pine Warbler.

Frederick and Baltimore Counties both recorded Peregrine Falcon sightings.

The Rusty Blackbird count more than tripled this year.

The most unusual bird for the 2017 Mid-winter Bird Count was the Painted Bunting in Harford County. First seen in early January, the Painted Bunting stayed in just about the same location for the next several months offering local birders many good viewing and photo opportunities.

Table 3. 2017 Maryland Mid-winter Count: Observed species.

Species	Frederick County	Carroll County	Howard County	Baltimore County	Harford County
Cackling Goose		1	2		
Canada Goose	4559	2945	4734	1362	1889
Mute Swan	2				
Tundra Swan	33				69
Wood Duck		5	3		
Northern Shoveler				38	
Gadwall	1	30		82	7
American Wigeon		5		33	6
Mallard	297	162	250	305	167
American Black Duck	12	21	31	11	52
Green-winged Teal			2	8	
Canvasback				146	15
Redhead	1	10		9	1
Ring-necked Duck	19	46	336	140	14
Greater Scaup				4	
Lesser Scaup				213	250
scaup sp.					3
Long-tailed Duck			2		
Bufflehead	2	12	15	104	2
Common Goldeneye	2				2
Hooded Merganser	15	51	54	54	37
Common Merganser	83	218	944	27	49
Ruddy Duck		17	1	656	
duck sp.				1	
Ring-necked Pheasant				1	
Wild Turkey	41	1	1		
Pied-billed Grebe	1	3	4	11	3
Horned Grebe				1	
Rock Pigeon	688	293	350	483	54
Mourning Dove	620	289	319	86	59
American Coot		1	1	12	
Sandhill Crane				26	
Killdeer	2	1	3		1
American Woodcock			2	1	
Wilson's Snipe			1	1	
Bonaparte's Gull				1	
Ring-billed Gull	156	64	231	1675	501
Herring Gull		3		214	47
Iceland Gull				1	1
Lesser Black-backed Gull				1	
Great Black-backed Gull				89	10
gull sp.			11		
Common Loon		4			

Species	Frederick County	Carroll County	Howard County	Baltimore County	Harford County
Double-crested Cormorant			1	15	9
Great Blue Heron	8	11	16	14	7
Black Vulture	496	48	298	210	39
Turkey Vulture	681	72	226	17	60
Bald Eagle	10	10	28	11	23
Northern Harrier	4		2	1	5
Sharp-shinned Hawk	3	3	2		2
Cooper's Hawk	12	9	10	3	5
Red-shouldered Hawk	54	28	85	9	17
Red-tailed Hawk	119	27	62	8	13
buteo sp.			4	1	
Eastern Screech-Owl	10	4	4		
Great Horned Owl	6	2	8		2
Barred Owl	5	5	8	3	1
Northern Saw-whet Owl			2		
Belted Kingfisher	24	12	16	7	4
Red-headed Woodpecker			1		
Red-bellied Woodpecker	152	57	206	44	31
Yellow-bellied Sapsucker	7	5	17	5	4
Downy Woodpecker	160	85	204	75	20
Hairy Woodpecker	23	34	39	12	5
Northern Flicker	77	30	68	48	15
Pileated Woodpecker	36	26	46	6	6
woodpecker sp.				1	
American Kestrel	26	12	5	2	1
Merlin	1	1	2	4	2
Peregrine Falcon	1			1	
falcon sp.				1	
Eastern Phoebe	2	3	6	2	
Blue Jay	215	137	294	156	91
American Crow	962	535	1504	178	146
Fish Crow	67	4	83	229	4
crow sp.	100		479	195	
Common Raven	27	3	6	2	
Horned Lark	185	18	22	2	2
Carolina Chickadee	524	312	455	150	73
Black-capped Chickadee	2				2
Tufted Titmouse	275	168	408	108	50
Red-breasted Nuthatch	2	7	9	2	
White-breasted Nuthatch	207	84	200	53	39
Brown Creeper	13	9	12	13	2
Winter Wren	7	5	17	6	2
Carolina Wren	275	146	234	106	39
Golden-crowned Kinglet	38	37	20	16	6
Ruby-crowned Kinglet	4	6		8	2
Eastern Bluebird	330	97	361	55	22

Species	Frederick County	Carroll County	Howard County	Baltimore County	Harford County
Hermit Thrush			12	3	6
American Robin	314	208	315	388	156
Gray Catbird	1		1	2	
Brown Thrasher			1	1	
Northern Mockingbird	105	80	105	52	31
European Starling	6815	3669	2069	658	665
Cedar Waxwing	26	236	64	140	
House Sparrow	791	271	186	144	86
American Pipit	1				
House Finch	334	214	217	76	43
Purple Finch		2	10		
American Goldfinch	324	151	179	82	50
Eastern Towhee	6	29	54	14	6
American Tree Sparrow	7	1	1	6	1
Chipping Sparrow	49		8	14	3
Field Sparrow	9	11	52	28	11
Savannah Sparrow	8		28		2
Fox Sparrow	1	5	7	10	2
Song Sparrow	236	164	595	138	179
Lincoln Sparrow					1
Swamp Sparrow	11	13	19	53	9
White-throated Sparrow	520	626	1677	410	280
White-crowned Sparrow	25	26	29		
sparrow sp.	31		30	3	
Dark-eyed Junco	1069	423	1141	398	473
Eastern Meadowlark	3				
Red-winged Blackbird	212	4	2406	123	517
Brown-headed Cowbird	32	8	536	4	
Rusty Blackbird			30		
Common Grackle	2	3	509	385	110
blackbird sp.	15		1294	100	
Orange-crowned Warbler				1	
Common Yellowthroat		1			
Palm Warbler					1
Pine Warbler				1	
Yellow-rumped Warbler	7		8	34	
warbler sp.				1	
Northern Cardinal	596	354	520	197	137
Painted Bunting					1

I hope the readers find this information interesting and informative. Thank you to all the observers and compilers for their time and effort. I look forward to next year's count. - - Mary Anne.

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2017 Spring Raptor Migration at Fort Smallwood Park, Anne Arundel County, Maryland

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Ahhhhh! That's the sigh of relief over the rebounding of spring 2017's numbers from spring 2016's. Even though there were still more inclement weather days than one would like, the total number of migrant raptors counted during spring 2017 was about average and a whopping 32% above last spring's meager count. There were 431 hours of coverage spanning 82 days, 8% and 5% below their respective five-year (2012–2016) averages, but still much better than 2016 (Table 2). Species results were mixed. Seven of the twelve most common raptor species were below their 5-year averages: Black Vulture, Sharp-shinned, Cooper's, Red-shouldered, Broad-winged, and Red-tailed Hawks, and American Kestrel. The remaining five were above average: Turkey Vulture, Osprey, Bald Eagle, Northern Harrier, and Merlin. A new seasonal record of 225 individuals was established for Bald Eagle. Percent changes appear in Table 1.

Table 1. 2017 Common Raptor Species. The 2017 count and 5-year percentage changes.

	Black Vulture	Turkey Vulture	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Red-shouldered Hawk	Broad-winged Hawk	Red-tailed Hawk	American Kestrel	Merlin
2017 Count	279	6850	565	225	76	1061	209	95	339	178	122	59
5-Yr % Change	-36	+21	+40	+42	+13	-13	-24	-48	-35	-15	-58	+23

Notably, counts for six species have declined significantly over the long term. A review of running 5-year averages from 2006 through 2017 (i.e., 2006–2010, 2007–2011, etc.) shows a steady downward trend for Northern Harrier and Sharp-shinned, Cooper's, and Broad-winged Hawks. Comparing the 2006–2010 five-year average with that of 2013–2107, Northern Harrier seasonal counts have declined by 41%, Sharp-shinned Hawk by 45%, Cooper's Hawk by 48%, and Broad-winged Hawk by 42%. In addition, counts for Red-tailed Hawk and American Kestrel have also declined greatly, but not so steadily. For Red-tailed

Hawk, recent 5-year averages are less than half of what they were in the mid-1990s and for American Kestrel, the same can be said compared to those of the late 1990s.

Table 2. 2017 Monthly and Seasonal Count Summaries, Five-year Count Averages (2012-2016), and Ten-year Count Averages (2007-2016). (Due to the rounding off of the individual five-year and ten-year species averages, they do not necessarily add up to the total five-year and ten-year averages.)

Survey Days and Hours	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Total 2017	Five-year Average (2012-2016)	Ten-year Average (2007-2016)
Survey Days	4	24	27	22	5	82	86	88
Survey Hours	15.75	104.00	166.00	123.75	21.50	431.00	466	485
Species								
Black Vulture	2	100	142	29	6	279	438	404
Turkey Vulture	59	3,077	2,752	909	53	6850	5672	5,668
Osprey	1	149	358	49	8	565	405	451
Swallow-tailed Kite	0	0	0	0	0	0	1	0
Mississippi Kite	0	0	0	3	0	3	10	9
Bald Eagle	4	31	96	87	7	225	158	136
Northern Harrier	0	3	59	14	0	76	67	89
Sharp-shinned Hawk	0	48	776	237	0	1,061	1221	1,659
Cooper's Hawk	0	39	137	33	0	209	274	371
Northern Goshawk	0	0	0	0	0	0	0	0
Red-Shouldered Hawk	7	39	46	3	0	95	183	192
Broad-winged Hawk	0	0	153	181	5	339	523	657
Swainson's Hawk	0	0	0	0	0	0	0	0
Red-tailed Hawk	1	41	103	32	1	178	210	239
Rough-legged Hawk	0	0	0	0	0	0	0	0
Golden Eagle	0	2	0	0	0	2	1	1
American Kestrel	0	28	91	3	0	122	291	304
Merlin	0	6	36	17	0	59	48	52
Peregrine Falcon	0	0	0	0	0	0	3	4
Unidentified Accipiter	0	0	0	0	0	0	7	13
Unidentified Buteo	0	0	3	2	0	5	6	11
Unidentified Eagle	0	0	0	0	0	0	1	0
Unidentified Falcon	0	0	2	0	0	2	2	4
Unidentified Raptor	0	1	3	1	0	5	7	14
Other	0	0	0	0	0	0	0	0
Total	74	3,564	4,757	1,600	80	10,075	**9,527**	**10,275**

February: The 2017 season began on 24 February, delayed by adverse weather. Four days of coverage resulted in 74 raptors, 20% below the ten-year (2007–2016) average for that month.

March's weather permitted only 24 days of coverage, but 22–25 March produced a total count of 2275 raptors with 1550 tallied on 25 March itself, the

third highest daily total ever. Moreover, a record 1485 Turkey Vultures were counted that day, besting the old record of 1457 from 23 March 2003. Also, single Golden Eagles were observed on 6 and 7 March. Count-wise, March's 3564 raptors were 10% below the 10-year average.

April's weather fared better, allowing 27 days of coverage, and the count of 4757 raptors ended about average. It also featured a 1000+ raptor day with 1012 counted on 2 April, again fueled by Turkey Vultures (895). 10 April was notable for high seasonal daily counts of five species: Northern Harrier (17), Cooper's Hawk (23), Red-shouldered Hawk (11), Red-tailed Hawk (28), and American Kestrel (22). Note though, that all these "high" counts are actually fairly low historically.

May was a robust month, albeit on only 22 days of coverage, and the total raptor count of 1600 was 9% above average. Remarkable were 11 Merlins on 14 May. Mississippi Kites were scarce this season with only 3 counted, perhaps because a prey species, periodical cicada (*Magicicada* Davis spp. [Hemiptera: Cicadidae]), was more numerous in other parts of the flyway.

With Ospreys and Bald Eagles being more numerous this year, skirmishes between the two were more frequent. On 8 April, four different Bald Eagles got in a tangle with an Osprey carrying a fish, which was dropped and then retrieved by one of the eagles.

Other delights included a new species, #280 for the Park: two adult Black Skimmers on 7 May (Figure 1). Two to three Red-headed Woodpeckers made the Park home for several weeks, although they declined to stay to nest. A Northern Gannet was observed on 7 April, and a Brown Pelican flew past on 10 April.

The hawkwatch was fortunate to have a good number of counters aiding the effort, namely, Sue Ricciardi, Hal Wierenga, Lynn Davidson, Ralph Geuder, Bob Rineer, Dan Walker, Chris Reed, Paul Fritz, Bill Hubick, Andy Smith, Dan Haas, Jim Stasz, Harry and Liz Armistead, John Hoffman, Linda Baker, Andy Higgs, Hugh Hoffman, Dan Stewart, Greg Smith, Mary Jane McMillan, Steve Whitcomb, Alan Johnston, and Alan and Sue Young. Other visitors over the season enhanced the count. The staff at Fort Smallwood Park also extended their usual much appreciated support. Good news on the older data front: Hal Wierenga and Lynn Davidson have recovered detailed records from most of the 1981–1983 seasons, for which previously we only had summary data.

The 37th year of spring migration counts at Fort Smallwood Park is now complete. Year 38 will be here before long. Get ready!

Figure 1. Black Skimmers (*Rynchops niger*). Species # 280 for Fort Smallwood Park, Anne Arundel County, Maryland; photographed by Bill Hubick, 7 May 2017. Two adults flew in off the Bay, circled near the hawkwatch and around the pond before heading north. Minutes later they reappeared on the Chesapeake Bay and headed south.

[*Fort Smallwood Park is located in northeastern Anne Arundel County at 9500 Fort Smallwood Road, Pasadena, Maryland. It is situated at the tip of a peninsula where the Patapsco River and Rock Creek meet the Chesapeake Bay. The park is operated by the Anne Arundel County Department of Recreation and Parks. Additional Fort Smallwood Park information can be found at: http://www.aacounty.org/departments/recreation-parks/parks/fort-smallwood/.*]

"Working the Bark" by Ellen Lawler

"I painted the Brown Creeper in a workshop where I was following along with what the teacher, Kurt Plinke, was painting. Kurt is an accomplished artist and a naturalist who lives in Greensboro, Maryland. The image was painted in watercolor at Kurt's studio in January 2009."

MARYLAND BIRDLIFE

NOTICE TO CONTRIBUTORS

Contributors should prepare manuscripts according to the following instructions.

Title: The title should be brief, concise, and pertinent.

Abstract: An abstract is required for all long articles; suggested for all biologic studies more than two (2) pages in length; but is not needed for notes, distribution reports, or short observations (especially if two pages or shorter in length). The abstract should provide a capsule description of the main thrust, methods and essential findings of the article. It should contain the scientific name of the main subject species.

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References: References should be given in an author-date format: (Robbins 1987); (Robbins 1987, 1988); (Robbins, in press); (Robbins, in litt.); (Robbins, pers. comm.); (Robbins and Robbins 1987); and (Robbins et al. 1987) for three or more authors. Provide evidence of acceptance for works "in press," or cite as "unpublished", "in litt.", or "pers. comm." (written permission is suggested as well). Citations shall be listed alphabetically, under LITERATURE CITED, as follows: **Articles**: Robbins, C.S. 1965. New breeding bird survey tested in Maryland this summer. *Maryland Birdlife* 21(2):48–49. Do not abbreviate the titles of journals. **Books**: Ellison, W.G. (Editor). 2010. *2nd Atlas of the Breeding Birds of Maryland and the District of Columbia*. The Johns Hopkins University Press, Baltimore, MD. 494 pp. **Internet**: Holt, D.W., M.D. Larson, N. Smith, D.L. Evans, and D.F. Parmalee. 2015. Snowy Owl (*Bubo scandiacus*), The Birds of North America (P.G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY; Available at: https://birdsna.org/Species-Account/bna/species/snoowl1. Accessed 6 April 2017.

Tables: Tables, graphs and line drawings should be created electronically in black and white. Color should only be used when absolutely necessary for clarity.

Illustrations: Photographs or high-definition images may be accepted if necessary or desired by the author(s) to support the text. Photographs should be submitted in color. Figure numbers, as cited in the text, and figure legends should be keyed to each respective photograph.

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